

Charles Schwab Futures and Forex LLC 600 W. Chicago Ave. Suite 800 = Chicago, IL 60654-2597

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In consideration of Charles Schwab Futures and Forex LLC ("Schwab Futures and Forex," "we," "us," or the "Firm"), acting in its capacity as a Futures Commission Merchant ("FCM") registered with the U.S. Commodity Futures Trading Commission ("CFTC") and Member of the National Futures Association ("NFA"), executing, clearing, and/or carrying futures contracts, options on futures contracts, or other derivatives products cleared through any derivatives clearing organization or other organized clearing house (collectively, "Commodity Interests") and other Contracts (as defined below) on behalf of the undersigned customer ("Customer," or "you," "your," or "yours"), Customer consents and agrees to the terms and conditions set forth in this Futures Client Agreement, as well as any supplemental agreements and disclosures, as amended from time to time (collectively, "Agreement"). This Agreement is binding, as applicable, on your heirs, executors, administrators, successors, and assigns, and will inure to the benefit of Schwab Futures and Forex successors.

1. DEFINITIONS

"Account" means each futures Account Customer opens with Schwab Futures and Forex or maintains an interest in for the trading of Commodity Interests and all interests therein, including any other cash transactions, or any similar interests (hereinafter, collectively referred to as "Contracts"), which may be purchased, sold, carried, or cleared through Schwab Futures and Forex in its capacity as a CFTC-registered FCM.

"Affiliates" The term "Affiliates" shall mean all entities (whether domestic or foreign), present and future, which control, are controlled by, or are under common control with Schwab Futures and Forex, including, but not limited to, TD Ameritrade Holding Corporation, TD Ameritrade, Inc. (an SEC-registered introducing broker-dealer), TD Ameritrade Clearing, Inc. (an SEC-registered clearing broker-dealer) (TD Ameritrade, Inc. and TD Ameritrade Clearing, Inc., collectively, "**TD Ameritrade**"), Charles Schwab & Co., Inc. (an SEC-registered broker-dealer), Charles Schwab Bank, and The Charles Schwab Corporation. Schwab Futures and Forex and its Affiliates are referred to collectively in this Agreement as "**Schwab**."

"Schwab Futures and Forex Content" means all information, tools, and services available on Websites (other than Services provided by Schwab Futures and Forex or by any third party).

"Securities Account" means the securities account you established at either Charles Schwab & Co., Inc. or TD Ameritrade for trading securities and linked to the futures Account as discussed herein.

"Services" means Websites, platforms, and related services provided by Schwab Futures and Forex or Affiliates to enable you to place trades in your Account. The term "Services" does not include Schwab Futures and Forex Content.

"Third-Party Provider" means third parties who provide content, information, tools, and services through the Websites, including financial and investment tools, market data, reports, alerts, calculators, and access to online conferences, telecasts, bulletin boards, tax preparation, or account management tools.

"Websites" means the Internet sites of Schwab Futures and Forex and all Affiliates, through which we offer the Services.

2. AUTHORIZATION AND ACKNOWLEDGMENTS

- a. Self Directed Account. Customer understands and acknowledges that Accounts opened with Schwab Futures and Forex are self-directed, and that Customer is solely responsible for all orders of Contracts placed in Customer's Account.
- **b.** No Advice. You understand and acknowledge that we, whether orally, in writing, or through our Websites or otherwise, provide no tax, legal, trading, or investment advice of any kind, nor do we give advice or offer any opinion with respect to the nature, appropriateness, potential value, or suitability of any particular transaction or investment strategy regarding Commodity Interests or your Account. You acknowledge and agree that: (i) any investment or trading decisions you make will be based solely on your own evaluation of your financial circumstances and investment objectives and the suitability or appropriateness for you of any Commodity Interests or transaction or any trading strategy, without reliance on any information or other statements that may be made by the Firm, and that the Firm makes no representations or warranties as to the value, merits, or suitability of any orders for Contracts placed or transaction in your Account; (ii) you will place all trades and will not utilize the services of any third party agent on your behalf unless the use of such third party agent has been expressly disclosed to the Firm in writing and approved by the Firm in advance; (iii) the Firm maintains no fiduciary obligations to you and the Firm's duties and obligations are limited to those expressly set forth in this Agreement; (iv) the Firm is acting solely as your broker in accordance with the terms of this Agreement and is not otherwise acting as an agent or a fiduciary to you and maintains no discretionary authority or control over the Account; and (v) the Firm has no financial or other obligations as principal to you under the terms of this Agreement in connection with any transaction in Contracts executed in your Account.
- c. Transaction Authorization. Customer authorizes Schwab Futures and Forex to: (i) purchase and sell Contracts upon Customer's oral, written, or electronic instructions; and (ii) employ any clearing broker, executing broker, or floor broker, as Customer's agents in connection with the execution, clearing, carrying, delivery, and /or settlement of any such transactions. Customer acknowledges and agrees that Customer will be bound by, and Schwab Futures and Forex may rely upon and act in accordance with, any oral or written instructions which the Firm believes, in good faith, to have been given by the Customer. Schwab Futures and Forex shall not be responsible to Customer in any case for an executing broker's or floor broker's inability to execute an order or erroneous execution of an order. All orders may be executed on any exchange or other market where such business is transacted by Schwab Futures and Forex or by any agent of Schwab Futures and Forex in the discretion of the Firm or agent, respectively, unless otherwise instructed by Customer.

- d. Applicable Law. Each Customer Account carried by Schwab Futures and Forex in connection with Customer's Contracts and each Contract shall be subject to: (i) the Commodity Exchange Act, as amended (the "CEA"), and all rules and interpretations of CFTC and NFA; (ii) the constitution, by-laws, rules, interpretations and customs of any applicable exchange or clearing organization (each of which is referred to as an "Exchange"); and (iii) any other federal or state laws, rules, or orders applicable to Schwab Futures and Forex or to Customer's trading of Contracts (collectively, "Applicable Law"). Schwab and its respective partners, managing directors, officers, directors, employees, or agents (collectively, "Schwab Parties") shall not be liable as a result of any action taken by such Schwab Parties, or any clearing brokers or floor brokers, to comply with Applicable Law. In connection with your Account, you agree to fully comply with all Applicable Law. Any failure by such Schwab Parties to comply with any Applicable Law will not relieve Customer of any obligations under this Agreement, nor will it be construed to create rights thereunder in favor of Customer and against such Schwab Parties.
- e. Safeguarding of Customer Account and Login Information. You acknowledge and understand that electronic order entry services may require you to use a number or password to access and/or trade in your Account. You are responsible for the confidentiality and use of your access number, password, and account number (collectively, "Login Information"), and for all transactions initiated through these means. Any orders communicated to us through these means will be considered to have been sent and authorized by you. You acknowledge and agree that: (i) your Login Information will be used solely by you to access your Account; (ii) you will not disclose, divulge, or allow any other person to utilize your Login Information; (iii) you will notify us immediately if you become aware of any loss, theft, or unauthorized use of your Login Information; and (iv) all orders entered or instructions given to Schwab Futures and Forex through the internet are Customer's sole responsibility, and that Customer will save, defend, indemnify and hold harmless Schwab Futures and Forex from and against any and all liability, costs, or damages of any kind arising from any unauthorized use of Customer's Login Information.

3. CUSTOMER INFORMATION

- a. Legal Capacity. If an individual, Customer is of legal age in the jurisdiction in which Customer resides and maintains the capacity and authority to enter into this Agreement. If a legal entity, Customer maintains the legal authority and is duly empowered to execute and enter this Agreement. Whether entering Agreement as individual or legal entity, Customer is authorized to enter into this Agreement, open Account(s), and effect transactions in Commodity Interests through Schwab Futures and Forex. Customer represents such transactions do not and will not violate any Applicable Law, or any judgment, decree, order, or agreement, to which Customer or Customer's property is subject. Customer acknowledges and agrees that this Agreement is binding on and enforceable against Customer in accordance with its terms.
- b. Accuracy of Information. Customer represents all the information provided to Schwab Futures and Forex and/or its Affiliates is true and correct. Customer acknowledges and agrees: (i) to notify the Firm within ten business days of any change in such information by sending an email to futures@schwab.com, or by updating your Account information online; (ii) that Schwab Futures and Forex may rely on all information Customer provides the Firm; and (iii) that Customer will provide Schwab Futures and Forex any supplemental information requested by the Firm and within the requested time frame.
- c. CFTC Regulation 155.3(c). You represent that you are not an associated person, principal, general partner, employee, or otherwise associated with an FCM or introducing broker under Applicable Law, or if you are so employed or associated, you understand and acknowledge that in order to open an Account with Schwab Futures and Forex, you must provide to the Firm written consent from such employer or entity.
- d. Current Information. Customer agrees to promptly notify Schwab Futures and Forex in writing (in accordance with subsection b. above) of any change or changes in Customer's circumstances which affect the representations and information provided to Schwab Futures and Forex and/or would in any way affect Customer's ability to enter into any transactions contemplated herein or render performance under any term of this Agreement.
- e. Individual Account or Individual Retirement Account. If this is an Individual Account, or Individual Retirement Account ("IRA"), Customer represents that this is an Individual or Sole Proprietorship Account, and that no one else has an interest in the Account. If this is an IRA established under Section 408(a) of the Internal Revenue Code of 1986, as amended (the "Code"), or an account of a Roth IRA established under Section 408A of the Code, the undersigned person represents that he or she is the beneficial owner of the IRA, which is the Account owner hereunder, and therefore, has authority: (i) to give any instructions with respect to the Account; (ii) to receive any demands, notices, confirmations, reports, statements, and other communications of any kind; (iii) to sign any other documents related to the opening or maintenance of this Account; and (iv) generally to deal with Schwab Futures and Forex in connection herewith as fully and completely as if the trustee or custodian of the IRA had no interest herein.
- f. Joint Account or Multiple Party Accounts. If more than one Customer has an interest in the Account (each, an "Account Holder"), each Account Holder is jointly and severally liable for obligations arising under this Agreement or relating to the Account. Each Account Holder has authority, acting individually and without notice to any other Account Holder(s), to deal with the Firm as fully and completely as if the Account Holder is the sole Account Holder, including, but not limited to: (i) giving instructions to the Firm with respect to the Account; (ii) providing information to the Firm with respect to the Account, including, for example, information regarding applicable registration requirements; (iii) receiving demands, notices, confirmations, reports, statements, and other communications of any kind; and (iv) signing documents related to maintenance of the Account. Any notice we send to one Account Holder will be notice to all Account Holders and any information provided to the Firm by one Account Holder will be deemed information provided by all Account Holders.

We reserve the right to require written instructions from all Account Holders, at our sole discretion. We reserve the right, but are not obligated, to place trading, disbursement, and other restrictions on an Account in the event we receive notice of a dispute among, or conflicting instructions from, joint Account Holders.

g. Legal Entity Account. If this is a legal entity Account (e.g., a corporation), the individual signing this Agreement on behalf of the legal entity is fully authorized and has separately provided evidence of such authorization in writing to Schwab Futures and Forex.

4. LIEN AND SECURITY INTEREST

Customer grants Schwab Futures and Forex a first lien and security interest in all monies, open position in Contracts, documents representing title to commodities (such as warehouse receipts and the commodities represented thereby), and any other property of Customer (either individually or jointly with others) now or in the future held by Schwab Futures and Forex in Customer's Account and/or held by Schwab Futures and Forex's Affiliates in Customer's Securities Account or otherwise in Schwab Futures and Forex's or its Affiliates' possession or control for any purpose (collectively, the "**Collateral**"), including safekeeping, to secure payment, and to discharge of all obligations of Customer to Schwab Futures and Forex or any Affiliates of Schwab Futures and Forex, which Collateral is subject to a general lien of, and right of set-off by, Schwab Futures and Forex for any and all such obligations. Customer acknowledges and agrees to execute any and all documents, including Uniform Commercial Code financing statements, as deemed necessary or appropriate by Schwab Futures and Forex to evidence or perfect the Firm's security interest in any Collateral, and Customer appoints Schwab Futures and Forex as agent to sign such documents on Customer's behalf. Customer has not granted and will not grant a security interest in the Collateral or the Account (other than the security interest granted to Schwab Futures and Forex and its Affiliates hereunder) to any other party without the Firm's prior written consent. Except as prohibited by Applicable Law, all Collateral now or hereafter held or carried by Schwab Futures and Forex and/or its Affiliates for Customer with any other property. Except as provided by Applicable Law, Schwab Futures and Forex shall not be required to retain in its possession for delivery a like amount of, or to pay interest on, or to account to Customer for any profits on, such property.

5. TRANSFER OF FUNDS AND TREATMENT OF CASH COLLATERAL

To open an Account, Customer acknowledges and understands that Schwab Futures and Forex requires Customer to first open and maintain a linked Securities Account with one of the Firm's Affiliates, Charles Schwab & Co., Inc. or TD Ameritrade. Customer understands and agrees that the Firm may, without further authorization from Customer, automatically transfer funds from the Customer's linked Securities Account to the futures Account in order to meet margin requirements, to support any and all transactions in Commodity Interests in your Account, or to reduce a debit balance in your Account. Customer acknowledges and understands that the Account can only be funded from the Securities Account, and that all outgoing transfers or payments, such as outgoing wire transfers, ACH instructions, or other requests to transfer or remove funds, must be initiated from the Securities Account. If excess cash is held in the Account at the end of the trading day (i.e., cash coupled with other Collateral in excess of Customer's margin requirements or other obligations to the Firm), such available cash may, without further authorization from Customer, be automatically transferred by the Firm on Customer's behalf from the Account held with the Firm to Customer's Securities Account.

Regardless where available cash is held, applicable Securities and Exchange Commission and CFTC rules require appropriate segregation of Customer's assets from Firm assets. Customer acknowledges and understands available cash that is transferred out of Customer's futures Account and into Customer's Securities Account will not receive the preferential treatment applied to funds held in futures accounts pursuant to Part 190 of CFTC's regulations and the U.S. Bankruptcy Code.

Customer acknowledges and understands that any funds transferred to, deposited with, or otherwise held in Customer's linked Securities Account (including those resulting from the excess cash transfer referenced herein) will be governed by the terms and conditions pertaining to the respective Securities Account and will be handled and processed in accordance with the laws and regulations governing securities brokerdealers. Customer acknowledges and agrees to refer to the Securities Account Client Agreement and any associated documents, including, if applicable, Schwab's Cash Features Disclosure document, for further information regarding the treatment of funds held in Customer's Securities Account. Customer may elect at any time to not have available cash automatically transferred from the Account to a Securities Account by contacting Schwab Futures and Forex's New Account Department at 600 W. Chicago, Suite 800, Chicago, IL 60654 or via email at futures@schwab.com.

6. LIQUIDATION OF POSITIONS

If the Account is under-margined or if Schwab Futures and Forex, in its sole discretion, determines that because of Customer's financial condition, market conditions, or any other potential insecurity, Customer may not be willing or able to fulfill Customer's obligations hereunder, the Firm may in its sole discretion and without prior notice liquidate, offset and/or mitigate the risk of any of Customer's open positions in Contracts within a reasonable amount of time in an effort to reduce such margin deficiency or insecurity, and Customer shall remain liable to the Firm for any resulting or remaining loss or debit balance without regard to whether the Firm has adhered to margin requirements, Applicable Law, the Firm's internal policies or procedures, the rules of any contract market, or any term of this Agreement.

Likewise, to the extent permitted by Applicable Law, Customer hereby authorizes the Firm, without prior notice and in the Firm's sole discretion, to arrange for the liquidation of any assets held by the Firm's Affiliates in Customer's linked Securities Account in an effort to reduce such margin deficiency or insecurity in Customer's futures Account. As permitted by Applicable Law, Customer hereby specifically authorizes Schwab Futures and Forex, in its sole and absolute discretion and without prior notice to Customer, to transfer from and/or to Customer's Account from and/or to any other account Customer may maintain with Schwab Futures and Forex or any of its Affiliates (including from any of Customer's Securities Accounts held by Schwab Futures and Forex's Affiliates) such amount of excess funds or Collateral as in Schwab Futures and Forex's judgment may be necessary at any time to avoid a margin call or to reduce the debit balance in said other account, or to satisfy any other obligations of Customer to Schwab Futures and Forex. The Firm's right to offset and/or mitigate the risk of any of Customer's open positions in Contracts includes the right, if deemed appropriate in the exercise of the Firm's discretion, to buy and/or sell any Contracts or other property, including but not limited to the use of spreads, straddles, and/or off-exchange transactions, such as an exchange for related position or other cash transactions, in order to effectuate such liquidation and/or mitigation. The Firm, however, is not obligated to do so. Customer acknowledges and agrees that a prior demand or call or prior notice of the time and place of such sale or purchase from the Firm shall not be considered a waiver of the Firm's right to sell or buy without demand or notice as herein provided. Customer acknowledges and agrees that Customer remains liable for and shall immediately pay to the Firm the amount of any deficiency in Customer's Account resulting from any transaction described above. For purposes of this Section 6, a reasonable amount of time shall be deemed one hour or less, if in the Firm's sole discretion, the Firm determines market conditions require margin calls must be met in less than one hour.

Customer acknowledges and understands the Firm, in its sole discretion, may choose which Contracts or other property to buy or sell, which transactions to close, and the sequence and timing of liquidation, and that Firm may take such actions on whatever exchange or market and in whatever manner (including public auction or private sale) chosen by the Firm in its sole discretion. You agree not to hold the Firm liable for the choice of which Contracts or other property to buy or sell, or of which transactions to close, or for timing or manner of liquidation.

7. MARGINS AND LIMITS

Customer acknowledges and agrees that Schwab Futures and Forex maintains the right to set and revise margin requirements and to limit, without prior notice to Customer, the number or size of positions which Customer may maintain or acquire through the Firm. The Firm maintains the absolute right at all times to limit the size and number of open Contracts (net or gross) held in the Account, refuse the acceptance of orders or other instructions for new positions, and/or require the reduction of open positions in your Account. Customer acknowledges and agrees to maintain Collateral and margin for all Accounts at the greater of as from time to time may be required by the Firm in its sole discretion or as required by Applicable Law. The Firm's margin requirements may exceed the margin requirements set by any exchange, clearing organization, or other regulatory authority and need not be uniform as among customers or commodities.

8. PAYMENT FOR SERVICES

- a. Customer is liable for payment upon demand of any obligations owing in Customer's Account, including the reasonable costs, including attorneys' fees and court or arbitration fees, incurred in collecting such obligations. Without limiting any of the Firm's other rights, Customer expressly authorizes Schwab Futures and Forex to debit Customer's Account for any amounts Customer may owe Schwab Futures and Forex under this Agreement.
- b. Customer agrees to pay when due, the Firm's charges for commissions at rates established between the Firm and Customer and for fees and service charges as a result of, or related to, the transactions effected under this Agreement, including exchange fees, all applicable regulatory fees, and for other services offered and accepted in connection with the Account. Our failure to deduct fees from your Account at the time you incur those fees does not waive the Firm's right to deduct those fees from your Account at a later time. Customer understands that these rates will be provided to Customer on the Websites or through electronic communications provided by Schwab Futures and Forex.
- c. Customer will undertake, at any time upon demand by the Firm, to discharge all obligations to the Firm, or, in the event of a closing of any of Customer's Accounts in whole or in part, to pay any deficiency owed, if any, including costs, damages, or attorneys' fees suffered or paid by Schwab Futures and Forex, directly or indirectly, in connection with such deficiency.
- d. In lieu of requiring the immediate discharge of any of Customer's obligations, Schwab Futures and Forex may, in its sole discretion, demand security for such obligation and, if elected, for all future obligations, in which event Customer will either discharge all existing obligations to Schwab Futures and Forex or furnish security as demanded, and in connection therewith, will execute and deliver such security agreements, financing statements, and other documents prescribed by or approved or requested by Schwab Futures and Forex.
- e. I Customer agrees to maintain at least \$1,500.00 net liquidating value at all times between Customer's Securities Account and Customer's futures Account at Schwab Futures and Forex. Customer understands that in the event the Account balance falls below the minimum net liquidating value, the Firm will restrict activity in the Account and Customer will only be permitted to close out Contract positions. The Firm, without notice and in its sole discretion, reserves the right to raise Customer's minimum Account net liquidating value at any time.
- f. Upon request from the Firm, you agree to promptly provide to the Firm copies of your latest audited financials (if applicable) and any such other financial or other information as the Firm may reasonably request.

9. NO GUARANTEE AGAINST LOSS

Customer acknowledges and agrees that Schwab Futures and Forex has made no representations to Customer guaranteeing against losses in Customer's Account or limiting Customer's losses. Likewise, Customer acknowledges and agrees that Schwab Futures and Forex has made no representations to Customer that the Firm will not call or attempt to collect required margin. Customer understands that Contracts may trade at negative prices, and that Customer may lose more money than Customer deposited or had on deposit with Schwab Futures and Forex as a result of trading in Contracts. Customer acknowledges and agrees that Customer is fully liable for all losses Customer may incur as a result of the trading in Customer's Account and/or the positions in Contracts held in Customer's Account.

10. LIMITATION OF LIABILITY; INDEMNIFICATION

Customer acknowledges and agrees that neither Schwab Futures and Forex nor any of its officers, directors, employees and/or Affiliates (including officers, directors and employees thereof) is responsible for Customer's compliance with any Applicable Laws.

Customer acknowledges and understands that the Services are provided "as is" and "as available." Schwab Futures and Forex, its officers, directors, Affiliates, employees, Third-Party Providers (and their respective licensors, employees, distributors, or agents) make no representations with respect to the Services and expressly disclaim all warranties. Subject to Applicable Law, in no event will Schwab Futures and Forex, its officers, directors, Affiliates, employees, Third-Party Providers (or their respective licensors, employees, distributors, or agents) be liable to Customer or any third party for any direct, indirect, incidental, special, punitive, or consequential losses or damages of any kind with respect to the Services including damages for loss of profit or loss of trading opportunity.

Neither Schwab Futures and Forex nor any of its officers, directors, Affiliates, or employees shall be under any liability whatsoever for any loss or damage sustained by Customer as a direct or indirect result of any Services provided hereunder or for any loss or damage resulting directly or indirectly from: (i) any failure or delay or default by Schwab Futures and Forex, or any third party, including any custodian or exchange (including any clearinghouse), in providing accurate information or performing its functions; (ii) any event or circumstance beyond the reasonable control of Schwab Futures and Forex including, but not limited to: (A) any failure or defective performance of any communication, settlement, computer or accounting system or equipment; or (B) performance, non-performance, delays in the transmission or execution of any order due to suspension or termination of trading, the breakdown or failure of the system or of any other transmission system, electronic trading system, or communication facilities, or (C) any governmental, judicial, administrative, exchange, or regulatory or self-regulatory organization order, restriction, or ruling; (iii) strikes or similar labor action; or (iv) any reliance placed by Customer on any market or other information supplied by Schwab Futures and Forex to Customer, it being

understood that any such information may be unverified and Schwab Futures and Forex makes no representation or warranty as to the accuracy or reasonableness of such information

You acknowledge and agree that you are solely responsible for your research and neither Schwab Futures and Forex nor any Third-Party Provider make any representations, warranties, or other guarantees as to the accuracy or timeliness of any market data; nor does Schwab Futures or Forex or any Third-Party Provider make any representations, warranties, or other guarantees as to the present or future value or suitability of any sale, trade, or other transaction involving any Contracts or any other investment.

You agree to indemnify and hold harmless Schwab Futures and Forex, its Affiliates, and Third-Party Providers, as well as the respective officers, directors, employees, agents, and representatives of Schwab Futures and Forex, its Affiliates, and Third-Party Providers from any and all liabilities, losses, costs, judgments, penalties, claims, actions, damages, expenses, or attorneys' fees (collectively "Losses") resulting or arising from your use of Services or transactions in your Account, except to the extent that such Losses are the direct result of gross negligence or willful misconduct.

In the event that Schwab Futures and Forex is a party, directly or indirectly, to any claim, dispute, or loss in connection with: (i) any transaction effected in the Account; (ii) your obligation or liability arising from the Account; (iii) this Agreement; (iv) your use of an electronic trading system of any exchange or other market; or (v) your violation of any third party's rights, including, but not limited to, copyright, patent, trademark, proprietary, and privacy rights, you shall indemnify and reimburse Schwab Futures and Forex for all losses, damages, fines, penalties, and expenses incurred, including reasonable attorneys' fees and expenses. Schwab Futures and Forex shall have the exclusive right to defend, settle, or compromise any claim or demand instituted by any third party against the Firm or against the Firm and you. You hereby waive any and all rights you may have independently to defend, settle, or compromise any such claims or demands and agree to cooperate to the best of your ability with Schwab Futures and Forex with respect thereto, but the Firm may, in its sole discretion, authorize and require you to defend, settle, or compromise any such claim as the Firm deems to be appropriate at your cost, expense, and liability. You agree to reimburse Schwab Futures and Forex on demand for any cost of collection incurred by the Firm in collecting any sums owed by you under this Agreement and any cost incurred by the Firm in defense of any claims asserted by you, including all attorneys' fees, interest, and expenses.

11. NOTICES AND CLIENT COMMUNICATIONS

- a. Electronic Signatures. You acknowledge and agree that you will be entering into a legally binding agreement by electronically signing the Agreement and understand that your electronic signature is equivalent to signing a paper contract. The use of an electronic version of this Agreement fully satisfies any requirement that such documents be provided in writing. If documents are signed electronically, you represent that you have the ability to access and retain a record of the documents. You are responsible for understanding these documents and agree to conduct business with Schwab Futures and Forex by electronic means. You are obligated to periodically review the Websites for changes or modifications. Your continued use of the Services and/or trading in the Account shall be deemed your consent to any such changes.
- b. Trade Statements and Other Account-Related Communications. You authorize Schwab Futures and Forex to deliver any communications. including certain tax related documents, by: (i) regular or express mail at the mailing address you provide; (ii) email at the email address specified by you; (iii) posting the communication on the Websites or trading platforms where the communication can be read and printed by you; (iv) sending you an email that includes a hyperlink to the Websites where the information is posted and can be read and printed by you; (iv) sending you a notice directing you to the Websites or trading platform where the communication is posted and from which it can be read and printed by you: (v) telephone at the telephone number that you provide; and/or (vi) facsimile at the number provided by you. You acknowledge and agree that such delivery will be an effective delivery to you for the purposes of any Applicable Laws, regardless of whether the communications are accessed or reviewed. You acknowledge that you have an affirmative duty to promptly review any and all trade confirmations, purchase and sale statements, and account statements for accuracy and completeness, and that such documents shall be deemed accurate unless written objection is transmitted by you immediately, but by no later than one hour after such documents are made electronically available. Objections may be made in writing to futures@schwab.com. Notwithstanding the foregoing, Schwab Futures and Forex may correct legitimate errors in any statement at any time. Although you consent to electronic delivery, Schwab Futures and Forex may elect to deliver communications by other means which shall not affect your consent. You agree to immediately notify the Firm of any change in your contact information (including, email address, mailing address, and telephone number). You agree that Schwab Futures and Forex is not responsible for any non-delivery of communications caused by your failure to do so. You may revoke your consent to electronic delivery at any time and should contact the Firm at 866-839-1100 option 4 or futures@schwab.com to do so.
- c. Delivery of Tax Documents. Tax documents provide important information you need to complete your tax returns. Much of the information we provide in tax documents is also reported to the IRS. This includes any corrected tax documents and accompanying notices. When your tax documents are ready, we will send an email notification, which will contain instructions on how to access those documents.
- d. Equipment. If you agree to electronic delivery, you understand and acknowledge that you must have a computer with Internet access, an email address, and the ability to download and save or print communications to retain for you records. You are responsible for obtaining and maintaining all equipment and services required for online access of your Account and for safeguarding your confidential Login Information (e.g., user identification; password information; etc.) necessary for online access of your Account.
- e. Unauthorized Access. You agree to notify us immediately if you: (i) become aware of any loss, theft, or unauthorized use of your Login Information; (ii) become aware of any unauthorized use of the Services or the market data; (iii) fail to receive a message that an order you initiated through the Services has been received or executed; (iv) fail to receive an accurate written confirmation of an order or its execution; or (v) receive confirmation of an order that you did not place.

12. COMMUNICATION DELAYS

You acknowledge and agree that Schwab Futures and Forex will not have any liability to you for delays in the transmission, clearance, or confirmation of your orders due to mechanical, electronic, or computer failure, market congestion, illiquidity, or other causes beyond the Firm's control. You acknowledge and agree that Schwab Futures and Forex will not be liable for improper execution, clearance, or confirmation of your orders by persons who are not employees or agents. The price at which an order is executed shall be binding notwithstanding the fact an erroneous report is made. An order, which was executed, but in error was reported as not executed, will be binding. Schwab Futures and Forex will have no liability to you arising out of: (i) your use of or reliance on information provided directly or indirectly through the Websites or trading platforms or Services generally, whether in the nature of quotations, margin requirements, or otherwise, (ii) Commodity Interest transactions not cleared through the Firm, or (iii) your access to or use of third party websites (or other resources) linked to or otherwise incorporated into or referenced within the Websites.

13. ELECTRONIC TRADING

You acknowledge and understand that Schwab Futures and Forex provides certain Internet-based, electronic trading platforms and systems for the purpose of facilitating the entry of your orders (i.e., Services). Customer acknowledges and understands that additional agreements, disclosures, and terms and conditions (e.g., Electronic Trading and Order Routing Systems Disclosure Statement) govern Customer's use of such Services, and agrees to be bound by the provisions set forth therein.

You acknowledge that all orders, whether placed through Schwab Futures and Forex electronic trading platform or Services, or otherwise, are at your sole risk. You shall be solely responsible for all orders entered or attempted to be entered through your identifiers (i.e., Login Information). Acceptance of an order for placement does not constitute an agreement or representation by the Firm that there is sufficient margin in the Account to support the resulting position. You acknowledge and understand that margin requirement information displayed on a trading platform may be subject to communication delays, and that Schwab Futures and Forex will have no liability to you arising out of your sole reliance on such information in connection with transactions entered in your Account. You acknowledge and understand that it is your responsibility to keep apprised of margin requirements applicable to the trading in your Account on a real time basis and agree to be liable for any losses incurred on all transactions in your Account, regardless of whether there is sufficient margin posted when the trade is ordered.

Under no circumstances shall Schwab Futures and Forex or any other FCM with whom the Firm maintains an omnibus or other clearing relationship have any responsibility or liability to you in the event that, whether because of electronic or other mechanical failure, system failure or delay, acts of God or terrorism, or any other reason, (i) you are unable to access or use the Firm's Websites or trading software, whether to place an order, receive Account-related information, or otherwise engage in any Commodity Interest related activities, or (ii) any exchange or clearing corporation sustains any mechanical, electrical, or other failure, delay, interruption, or congestion, whether or not such results in a failure to maintain an orderly market, failure or delay in the execution, clearance, or confirmation of Contracts for the Account or otherwise. You acknowledge that some electronic markets permit continuous trading, and that access to those markets may not be provided by the Firm. Under no circumstances shall the Firm bear any liability to you for any losses that may result from the inability to access markets due to such restrictions or failures. If the Firm believes that execution or attempted execution of any orders by you might contravene Applicable Law or violate Firm internal policies, the Firm, in its sole discretion, may delay or refuse to execute any order to purchase or sell Contracts for the Account, at any time, and from time to time. Schwab Futures and Forex may, in its sole discretion, remove particular Contracts from the list of Contracts that can be purchased or sold using electronic Services due to volatility or other market factors.

14. OPTIONS: DELIVERY, EXERCISE, AND ASSIGNMENT

With regard to options transactions, you understand that some exchange and clearing houses have established exercise requirements for the tender of exercise instructions, and that options will become worthless if you do not deliver instructions by such expiration times. You acknowledge and understand that you are solely responsible for: (i) monitoring options transactions in your Account; (ii) providing to the Firm timely instructions to liquidate, exercise, or allow the expiration of such options; and (iii) delivering to the Firm sufficient funds required in connection with any options transaction exercise. If such instructions or funds are not received by the Firm prior to the expiration of the option, the Firm may (but is not obligated to) permit an option to expire. You also understand that certain exchanges and clearing houses automatically exercise some "in-the-money" options unless instructed otherwise. You understand and acknowledge that you are solely responsible for taking action either to exercise or prevent the exercise of an option contract, as the case may be. You acknowledge and understand that the Firm is not required to take any action with respect to any option contract, including without limitation, any action to exercise a valuable option contract prior to its expiration or prevent the automatic exercise of an option, except upon your express, timely instruction. You further understand that the Firm may establish exercise instruction cut-off times, which may differ from the times established by exchanges or clearing houses. If timely exercise and/or assignment instructions are not provided by you to the Firm, you hereby agree to waive any and all claims for damages or losses allegedly arising from the exercise or failure to exercise an option. You understand that the Firm, or its agents, as the case may be: (i) randomly assign exercise notices to clients; (ii) that all short option positions, including a leg of a spread position, are subject to assignment at any time, including positions established on the same day that exercises are assigned; and (iii) that exercise assignment notices are allocated randomly from among all clients' short option positions subject to exercise.

Schwab Futures and Forex does not allow for Commodity Interests to be settled with physical delivery. You understand and acknowledge that you are required to close your position at least two business days prior to a physically deliverable product's First Notice Day. The "First Notice Day" is the date on which customers holding long physically settled futures can be called upon by the exchange to accept delivery of the underlying commodity. While the Firm retains the right to liquidate any position at its discretion at any time and without prior notice, open positions (regardless of whether they are long or short) in physically deliverable products will typically be liquidated by the Firm no later than two business days before First Notice Day and the Firm may, without notice, close out such positions without additional notification. You acknowledge and agree that the Firm will have no liability to you for any such action. In the event of an error, omission, or outtrade discovered on or after First Notice Day, the Firm will take action deemed appropriate by the Firm in its sole discretion and in accordance with Applicable Law. The Firm may restrict your right to maintain positions in any Contracts, including cash-settled Contracts, within two business days prior to Last Trading Day. The "Last Trading Day" is the last trading session for a particular delivery month.

15. POSITION ACCOUNTABILITY / LIMITS

In addition to compliance with any position limits that the Firm may impose, you agree to comply with any applicable position limits that may be established by the CFTC, other applicable regulators, the rules of any exchange or self-regulatory organization, or other Applicable Laws, whether you are acting alone or in concert with others. In the event such position limits are breached, Schwab Futures and Forex retains the right in its sole discretion to liquidate or close out any of your open positions, without notice to you and without your consent in order to reduce such open positions to a level that is in compliance with applicable limits. You will bear and be solely responsible for any losses or fees associated with such a reduction or liquidation.

Your reporting obligations regarding positions, under regulations promulgated by the CFTC or other Applicable Laws, may include the obligation to complete a Form 40 upon request by the CFTC. You agree to promptly notify the Firm if you are required to file position reports with any regulatory organization or exchange and agree to provide the Firm with copies of any such report. The Firm is not liable for any alleged losses related to exceeding applicable position limits in your Account.

16. RISK DISCLOSURES FOR FUTURES AND OPTIONS

Appendix A to CFTC Rule 1.55 (c) - Generic Risk Disclosure Statement

This brief statement does not disclose all of the risks and other significant aspects of trading in futures and options. In light of the risks, you should undertake such transactions only if you understand the nature of the contracts (and contractual relationships) into which you are entering and the extent of your exposure to risk. Trading in futures and options is not suitable for many members of the public. You should carefully consider whether trading is appropriate for you in light of your experience, objectives, financial resources, and other relevant circumstances.

Futures

1. Effect of "Leverage" or "Gearing"

Transactions in futures carry a high degree of risk. The amount of initial margin is small relative to the value of the futures contract so that transactions are 'leveraged' or 'geared.' A relatively small market movement will have a proportionately larger impact on the funds you have deposited or will have to deposit: this may work against you as well as for you. You may sustain a total loss of initial margin funds and any additional funds deposited with the firm to maintain your position. If the market moves against your position or margin levels are increased, you may be called upon to pay substantial additional funds on short notice to maintain your position. If you fail to comply with a request for additional funds within the time prescribed, your position may be liquidated at a loss and you will be liable for any resulting deficit.

2. Risk-Reducing Orders or Strategies

The placing of certain orders (e.g., 'stop-loss' orders, where permitted, under local law, or 'stop-limit' orders) which are intended to limit losses to certain amounts may not be effective because market conditions may make it impossible to execute such orders. Strategies using combinations of positions, such as 'spread' and 'straddle' positions, may be as risky as taking simple 'long' or 'short' positions.

Options

3. Variable Degree of Risk

Transactions in options carry a high degree of risk. Purchasers and sellers of options should familiarize themselves with the type of option (e.g., put or call) which they contemplate trading and the associated risks. You should calculate the extent to which the value of the options must increase for your position to become profitable, taking into account the premium and all transaction costs.

The purchaser of options may offset or exercise the options or allow the options to expire. The exercise of an option results either in a cash settlement or in the purchaser acquiring or delivering the underlying interest. If the option is on a future, the purchaser will acquire a futures position with associated liabilities for margin (see the section on Futures above). If the purchased options expire worthless, you will suffer a total loss of your investment which will consist of the option premium plus transaction costs. If you are contemplating purchasing deep out-of- the-money options, you should be aware that the chance of such options becoming profitable ordinarily is remote.

Selling ('writing' or 'granting') an option generally entails considerably greater risk than purchasing options. Although the premium received by the seller is fixed, the seller may sustain a loss well in excess of that amount. The seller will be liable for additional margin to maintain the position if the market moves unfavorably. The seller will also be exposed to the risk of the purchaser exercising the option and the seller will be obligated to either settle the option in cash or to acquire or deliver the underlying interest. If the option is on a future, the seller will acquire a position in a future with associated liabilities for margin (see the section on Futures above). If the position is 'covered' by the seller holding a corresponding position in the underlying interest or a future or another option, the risk may be reduced. If the option is not covered, the risk of loss can be unlimited.

Certain exchanges in some jurisdictions permit deferred payment of the option premium, exposing the purchaser to liability for margin payments not exceeding the amount of the premium. The purchaser is still subject to the risk of losing the premium and transaction costs. When the option is exercised or expires, the purchaser is responsible for any unpaid premium outstanding at that time.

Additional Risks Associated with Futures and Options

4. Terms and Conditions of Contracts

You should ask the firm with which you deal about the terms and conditions of the specific futures or options which you are trading and associated obligations (e.g., the circumstances under which you may become obligated to make or take delivery of the underlying interest of a futures contract and, in respect of options, expiration dates, and restrictions on the time for exercise). Under certain circumstances, the specifications of outstanding contracts (including the exercise price of an option) may be modified by the exchange or clearing house to reflect changes in the underlying interest.

5. Suspension or Restriction of Trading and Pricing Relationships

Market conditions (e.g., illiquidity) and/or the operation of the rules of certain markets (e.g., the suspension of trading in any contract or contract month because of price limits or 'circuit breakers') may increase the risk of loss by making it difficult or impossible to effect transactions or liquidate/offset positions. If you have sold options, this may increase the risk of loss.

Further, normal pricing relationships between the underlying interest and the future, and the underlying interest and the option may not exist. This can occur when, for example, the futures contract underlying the option is subject to price limits while the option is not. The absence of an underlying reference price may make it difficult to judge 'fair' value.

6. Deposited Cash and Property

You should familiarize yourself with the protections accorded money or other property you deposit for domestic and foreign transactions, particularly in the event of a firm insolvency or bankruptcy. The extent to which you may recover your money or property may be governed by specified legislation or local rules. In some jurisdictions, property which had been specifically identifiable as your own will be pro-rated in the same manner as cash for purposes of distribution in the event of a shortfall.

7. Commission and Other Charges

Before you begin to trade, you should obtain a clear explanation of all commissions, fees, and other charges for which you will be liable. These charges will affect your net profit (if any) or increase your loss.

8. Transactions in Other Jurisdictions

Transactions on markets in other jurisdictions, including markets formally linked to a domestic market, may expose you to additional risk. Such markets may be subject to regulation which may offer different or diminished investor protection. Before you trade, you should inquire about any rules relevant to your particular transactions. Your local regulatory authority will be unable to compel the enforcement of the rules of regulatory authorities or markets in other jurisdictions where your transactions have been effected. You should ask the firm with which you deal for details about the types of redress available in both your home jurisdiction and other relevant jurisdictions before you start to trade.

9. Currency Risks

The profit or loss in transactions in foreign currency-denominated contracts (whether they are traded in your own or another jurisdiction) will be affected by fluctuations in currency rates where there is a need to convert from the currency denomination of the contract to another currency.

10. Trading Facilities

Most open-outcry and electronic trading facilities are supported by computer-based component systems for the order-routing, execution, matching, registration, or clearing of trades. As with all facilities and systems, they are vulnerable to temporary disruption or failure. Your ability to recover certain losses may be subject to limits on liability imposed by the system provider, the market, the clearing house, and/or member firms. Such limits may vary; you should ask the firm with which you deal for details in this respect.

11. Electronic Trading

Trading on an electronic trading system may differ not only from trading in an open-outcry market but also from trading on other electronic trading systems. If you undertake transactions on an electronic trading system, you will be exposed to risk associated with the system, including the failure of hardware and software. The result of any system failure may be that your order is either not executed according to your instructions or is not executed at all.

12. Off-Exchange Transactions

In some jurisdictions, and only then in restricted circumstances, firms are permitted to effect off-exchange transactions. The firm with which you deal may be acting as your counterparty to the transaction. It may be difficult or impossible to liquidate an existing position, to assess the value, to determine a fair price, or to assess the exposure to risk. For these reasons, these transactions may involve increased risks. Off-exchange transactions may be less regulated or subject to a separate regulatory regime. Before you undertake such transactions, you should familiarize yourself with applicable rules and attendant risks.

13. Futures Negative Contract Disclosure

There are inherent risks when trading futures. One of the risks is the potential for a futures contract to trade or settle at a negative price. This can happen for many reasons, such as when there are dramatic changes in the supply of or demand for the underlying asset. If this happens, there could be an undesirable impact on your Account. You should keep in mind that if the market moves against your positions, you may lose all of the funds or assets that you have deposited into your Account and may incur additional losses beyond those amounts. You may also be asked to deposit additional margin funds into your Account on short notice. If you do not deposit the additional funds within the required time frame (as determined by Schwab Futures and Forex in its sole discretion), we may liquidate your existing positions without notice, which could result in a loss, and you would be liable for any resulting deficient in your Account.

17. PHONE CONVERSATIONS

Customer consents to: the electronic recording and monitoring, at the Firm's discretion, of any or all telephone, video, or electronic communications with the Firm (without the use of an automatic tone warning device); the use of such recordings as evidence by the Firm in any action or proceeding arising out of this Agreement; and, the Firm's erasure, at its discretion, of any recordings as part of its regular procedure for handling of recordings.

18. BINDING EFFECT; AMENDMENTS

This Agreement, any and all appendices and/or supplements executed in connection with this Agreement, the Futures Arbitration Agreement (if applicable), and the accompanying disclosures and other notices constitute the entire agreement between Customer and Schwab Futures and Forex with respect to the subject matter hereof and supersede any prior or contemporaneous agreements between the parties with respect to such subject matter.

The Firm reserves the right to amend this Agreement without prior notice, or as required by Applicable Law. The current version of the Agreement will be posted electronically and your continued Account activity following any such amendment to the Agreement constitutes your agreement to be bound by all amendments to the Agreement, regardless of whether you review them.

No person has the authority to represent that this Agreement will not be enforced in accordance with its terms or to make any representation inconsistent with the terms of the Risk Disclosure for Futures and Options and the Risk Disclosure Statement concurrently delivered to you.

19. CONSENT TO CREDIT CHECK; ANTI-MONEY LAUNDERING PROVISIONS

You understand an investigation may be made pertaining to your identity, creditworthiness, and business accounts. In connection therewith, you authorize the Firm to contact such banks, financial institutions, and credit agencies as the Firm deems appropriate. You acknowledge that any Account established pursuant to this Agreement shall be subject to anti-money laundering requirements established by applicable government agencies, self-regulatory organizations, or other Applicable Law.

20. ASSIGNABILITY

You may not assign this Agreement or any rights or obligations under this Agreement without first obtaining the Firm's prior written consent. The Firm may assign, sell, or transfer your Account and this Agreement, or any portion thereof, at any time, without your prior consent.

21. SEVERABILITY

If any provision of this Agreement is held to be illegal, invalid, or unenforceable under present or future laws, such provisions shall be fully severable. In such event: (i) this Agreement shall be construed and enforced as if such illegal, invalid, or unenforceable provision has never comprised a part of this Agreement or was modified to be legal, valid and enforceable; and (ii) the remaining provisions of this Agreement shall remain in full force and effect and shall not be affected by the illegal, invalid, or unenforceable provisions or by its severance from this Agreement, to the extent permitted by Applicable Law.

22. FORCE MAJEURE

We are not responsible and you agree not to hold us liable for losses caused directly or indirectly by conditions beyond our control, including, butnot limited to: war, natural disasters, pandemics, government restrictions, exchange or market rulings, strikes, interruptions of communications or data processing services, news or analysts' reports, market volatility or disruptions in orderly trading on any exchange or market.

23. TERMINATION

The Firm may terminate this Agreement, or close, deactivate, or block access to your Account at any time and for any reason in its absolute discretion. If the Firm decides to close or restrict your Account, the Firm may liquidate your Account and transfer the cash balance in the Account to your Securities Account, or may permit you to transfer any open positions in your Account to another FCM. In computing the cash balance of your Account at the time it is closed, we reserve the right to deduct any unpaid fees or charges (including account service fees) related to your Account. You agree not to hold us responsible for any losses incurred in connection with the restriction or closure of your Account. You will remain responsible for the payment of all obligations incurred in your Account or otherwise. You may terminate this Agreement after paying your obligations owed upon written notice to the Firm. This Agreement survives termination of the Account.

24. GOVERNING LAW

This Agreement, including, if applicable, the Futures Arbitration Agreement, and its enforcement shall be governed by the laws of the state of Illinois without regard to the conflicts of law provision thereof. No lawsuit, arbitration proceeding, or other claim, regardless of form, arising out of transactions under this Agreement may be brought by you more than one year after the cause of action arose. Provided, however, that any action brought under the provisions of Section 14 of the Act, may be brought at any time within two years after the cause of action accrues.

25. ACKNOWLEDGMENT OF DISCLOSURES

YOU UNDERSTAND THIS AGREEMENT AND CONSENT AND AGREE TO ALL OF THE TERMS AND CONDITIONS SET FORTH ABOVE. YOU ACKNOWLEDGE THAT TRADING IN COMMODITY INTERESTS IS SPECULATIVE, INVOLVES A HIGH DEGREE OF RISK AND IS APPROPRIATE ONLY FOR PERSONS WHO CAN ASSUME RISK OF LOSS IN EXCESS OF THEIR MARGIN DEPOSIT. YOU EXPRESSLY ACKNOWLEDGE THAT YOU HAVE RECEIVED, READ, AND UNDERSTAND, AND HAVE RETAINED COPIES OF CFTC REGULATION 1.55 RISK DISCLOSURE STATEMENT FOR FUTURES AND OPTIONS. YOU ALSO UNDERSTAND THAT YOU ARE RESPONSIBLE FOR REVIEWING AND UNDERSTANDING ANY AND ALL DISCLOSURES RELATED TO THIS ACCOUNT THAT ARE OR MAY BECOME APPLICABLE.

Investment Products: Not FDIC Insured * No Bank Guarantee * May Lose Value

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