

1 INTRODUCTION

This Agreement governs all brokerage accounts that I open with you, all transactions in my Account, the use of your websites, the Brokerage Services, the TD Ameritrade Content, and the Third-Party Content, and is binding on my heirs, executors, administrators, successors, and assigns, and will inure to the benefit of your successors. By opening an Account with you, I acknowledge that I have received, read, and understand this Agreement and agree to be bound by its terms.

"I," "me," "my," or "account owner" means each account owner who signs the Account Application. "You," "Your," or "TD Ameritrade" means TD Ameritrade Institutional, Division of TD Ameritrade, Inc., a wholly owned subsidiary of TD Ameritrade Holding Corporation, and, when applicable, TD Ameritrade Clearing, Inc. ("Clearing"), TD Ameritrade's clearing broker-dealer.

2 DEFINITIONS

"Account" means each brokerage account I open with you or have an interest in.

"Agreement" means these terms and conditions as well as any supplemental agreements and disclosures that apply to my Account, as amended from time to time.

"Applicable Rules" means all applicable federal and state laws, rules, and regulations, rules of any self-regulatory organization, the constitution and applicable rules, regulations, customs, and usages of the exchange or market and its clearing house.

"Brokerage Services" means your website and related services that you provide other than TD Ameritrade Content, which I need to place trades in my Account.

"Business Day" means Monday through Friday, excluding market holidays.

"Services" means, collectively, the websites, the Brokerage Services, The TD Ameritrade Content, and the Third-Party Content. This Agreement applies to the Services provided by You regardless of how I access them (e.g., in-person, phone, Internet, or by mobile device).

"TD Ameritrade Content" means all information, tools, and services available on your website, other than Brokerage Services provided by you, and not by a third party.

"Third-Party Content" means all information, tools, and services available on your website that are provided by a third party ("Third-Party Provider"), including financial and investment tools, market data, reports, alerts, calculators, access to online conferences, telecasts, bulletin boards, tax preparation, or Account management tools.

"websites" means the Internet sites of TD Ameritrade Holding Corporation and its subsidiaries through which you offer Services.

3 CONFLICT OF INTEREST DISCLOSURE

This section contains important information about possible conflicts of interest between me and my independent investment advisor ("Advisor"). As a fiduciary under applicable law, my Advisor is obligated to act in my best interest and to place my interests before its own. As described below, certain goods and services my Advisor obtains from you create potential conflicts of interest related to my Advisor's recommendation that I use your brokerage services. The possible conflicts of interest described in this section may not be the only conflicts that may exist between me and my Advisor. You encourage me to discuss conflicts of interest and potential conflicts of interest with my Advisor.

TD Ameritrade's Institutional Division offers services to Advisors and their clients, which include custody of securities and financial products, trade execution and clearance and settlement of transactions ("Institutional Program"). My Advisor and I agree that commissions, rates, and fees applicable to my Account may be based on scope and nature of the business that my Advisor transacts with you, including the current and future expected amount of my Advisor's clients' assets custodied with you. All Advisors that participate in the Institutional Program are eligible to receive certain economic benefits from you ("Program Benefits"). These benefits include various technological tools, items, and products that assist Advisors in managing and servicing their clients' Accounts. In addition, you may provide certain Advisors with discounts on products or services such as compliance, marketing, technology, and practice management products or services provided by third-party vendors. My Advisor's receipt of Program Benefits does not depend on the amount of brokerage transactions it directs to you. I should be aware, however, that my Advisor's receipt of Program Benefits creates potential conflicts of interest between me and my Advisor. For example, the receipt of Program Benefits by my Advisor may indirectly influence the Advisor's recommendation of your custodial and brokerage services.

You also offer additional benefits ("Additional Services") to select Advisors in the Institutional Program. The Additional Services may include reimbursement or waiver of fees or expenses related to the Advisor's business as an advisor, or the provision of services or other things of value for use in connection with the Advisor's business. An Advisor's receipt of Additional Services also raises potential conflicts of interest. In providing Additional Services to an Advisor, you consider the amount and profitability to you of the assets in and trades placed for, the Advisor's clients' Accounts maintained with you. Thus, to be eligible to receive Additional Services, my Agent may have an incentive to recommend to me that my assets be held in custody with you and to place transactions for my Accounts with you.

You also may refer interested clients to certain Advisors in the Institutional Program (known as "AdvisorDirect"). To be eligible for AdvisorDirect, Advisors must meet certain minimum eligibility criteria, which are described in the AdvisorDirect Disclosure Document. Once an Advisor meets the criteria, you may consider other factors in deciding whether to offer an Advisor the opportunity to participate in AdvisorDirect. Certain of these factors create potential conflicts of interest between me and my Agent. First, you may expect that an Advisor have a minimum amount of client assets at your firm before it will be included in AdvisorDirect. Second, you also may consider the profitability of your relationship with an Advisor as part of the determination. Consequently, if my Advisor is interested in participating or currently participating in AdvisorDirect, it may have an incentive both to recommend that my assets be custodied with you and to place transactions for my Account.

Furthermore, when a successful referral is made to an Advisor through AdvisorDirect, the Advisor pays you certain referral fees, which you may waive. You may waive such referral fees based on the amount of the Advisor's clients' assets and level of business transacted in Advisor client Accounts held with you. Consequently, my Advisor may have an incentive to recommend that assets be custodied with you and to place transactions for my Account.

Because of the potential conflicts noted above, it is important for me to make my own informed decision as to whether I open an Account with you. It may be in my best interests to choose your custodial and brokerage services despite the existence of these conflicts. By signing the application, I acknowledge that I have read and understand the conflicts of interest identified above. I understand that my Advisor may have various incentives to recommend that I open an Account with you. After considering these conflicts, I have independently decided to open an Account.

4 MY ACCOUNT AND RELATIONSHIP WITH YOU

a. Self-Directed Account. I understand that Accounts opened with you are self-directed. I am responsible for all purchase and sell orders, decisions to continue with an investment strategy or to hold an investment, and instructions placed in my Account. Any investment decision that I make or investment strategy that I utilize, including the decision to hold any and all of the securities or derivatives in the Account, is based on my own investment decisions or those of my Advisor and is at my own risk. All investments involve risk and, unless you provide individualized recommendations to me, I or my Advisor are responsible for determining the suitability of any trade, investment, investment strategy, and risk associated with my investments. TD Ameritrade Content or Third-Party Content I access through you does not constitute a recommendation to invest in any security or derivative, or to utilize any investment strategy. You do not provide legal, tax, or estate planning advice.

b. Fees and Commissions. I will pay commissions, charges, taxes, and other fees applicable to my Account. Current commission pricing and other fees are on the websites. You may change your fees and commissions at any time by posting changes on the websites or by other means.

You reserve the right to vary commissions among clients in connection with special offers or combinations of services or in other circumstances. You or Clearing may pay a portion of the revenues or fees derived from servicing my Account to third parties that provide services to you or Clearing. If my Account is an IRA or other retirement plan account, my Account may be charged fees that the particular plan has authorized to be paid to service providers other than you or Clearing.

c. Statements and Confirmations. It is my obligation to review trade confirmations and Account statements promptly upon receipt. These documents will be considered binding on me unless I notify you of any objections within five days from the date confirmations are sent and within 10 days after Account statements are sent.

d. Instructions.

1. **General.** You may accept and act on instructions from me, my agent, or any person authorized on my Account. You may refuse any order, or delay placing any order, if you determine that an order requires clarification from me. I will not hold you responsible for any losses caused by the rejection or delay. You will not receive any order or instruction transmitted by my agent or me until you have actual knowledge of the order or instruction. You do not determine the validity of my agent's status or capacity, the appropriateness of or the authority or actions by such person.

2. **Wire Transfers.** By initiating a wire transfer from my Account with or without a letter of instruction, I agree that you may use security procedures for accepting and acting upon wire transfer instructions. I agree that such security procedures may include one, some, or all of the following, depending on the type, amount, and frequency of the wire transfer request: requestor and/or account owner identification and verification; requestor and/or account owner signature comparison or verification; confirmation of receiving bank and/or account designation; notice provided via email, message center, or phone to account owner and/or authorized agent; account surveillance and/or trending analysis. In some circumstances, you may place limits on the portability of funds and additional documentation may be required.

I agree that the above security procedures are commercially reasonable under the circumstances. I agree to be bound by instructions to initiate a wire transfer, with or without a letter of instruction, whether in fact authorized or unauthorized, which you implement in compliance with these procedures, unless I have given you prior notice of possible unauthorized activity in my Account and you have a reasonable opportunity to act on such notice.

e. No Endorsement of Day Trading Strategy. You do not recommend, endorse, or promote a "day trading" strategy, which may involve significant financial risk to me.

f. Clearing Agreement. You and Clearing have entered into a clearing agreement in which Clearing is the clearing agent for securities transactions for your clients. You transmit client instructions to Clearing which causes such instructions to be executed. Clearing carries my Account on a fully disclosed basis. All securities, dividends, and proceeds will be held at Clearing unless otherwise instructed.

g. Account Protection. You are a member of the Securities Investor Protection Corporation ("SIPC"), which protects securities customers of its members up to \$500,000 (including \$250,000 for claims for cash). An explanatory brochure is available on request at www.sipc.org. Additionally, you provide each client \$149.5 million worth of protection for securities and \$2 million of protection for cash through supplemental coverage provided by London insurers. In the event of a brokerage insolvency, a client may receive amounts due from the trustee in bankruptcy and then SIPC. Supplemental coverage is paid out after the trustee and SIPC payouts and under such coverage each client is limited to a combined return of \$152 million from a trustee, SIPC, and London insurers. The TD Ameritrade supplemental coverage has an aggregate limit of \$500 million over all customers. This policy provides coverage following brokerage insolvency and does not protect against loss in market value of the securities.

To obtain information about the SIPC, including the SIPC brochure, I can contact the SIPC at:

Securities Investor Protection Corporation
805 15th St, N.W. Suite 800
Washington, D.C. 20005-2215

Tel: 202-371-8300
Fax: 202-371-6728
Email: asksipc@sipc.org
website: www.sipc.org

h. Beneficiary Designations. Changes in the relationship between the account owner and designated beneficiary (e.g., marriage, divorce, or adoption) will not automatically add or revoke beneficiary designations. For example, if an account owner designated a spouse as beneficiary and they were subsequently divorced, the former spouse will remain beneficiary on the Account unless the account owner submits a new beneficiary designation to you.

i. Compliance with Laws. I agree to comply with all laws, rules, and regulations applicable to my Account.

5 ABOUT ME

- a. Legal Capacity.** I am of legal age in the jurisdiction in which I reside and have the capacity and authority to enter into this Agreement.
- b. Accuracy of Information.** All the information I provide you is true and correct. I will promptly notify you in writing within 10 Business Days after any change in such information. You may rely upon all information I provide you.
- c. Interest in Account.** I represent that no one else except me (us) has an interest in any of my (our) Accounts (unless I am opening the Account as a fiduciary).
- d. Multiple Owners.** If there is more than one Account owner, then the provisions of the Agreement apply to each owner. Accounts of husbands and wives in community property states will be held in the name of husband and wife as community property unless we instruct you otherwise; any other Joint Account will be held jointly with rights of survivorship unless I notify you of a different form of ownership and provide such documentation as you require. You will have no liability for any loss that may arise due to taking instructions from one owner or requiring instructions from all owners. If I am married, I may establish an Account with my spouse as tenants by entirety. I will notify you if I become legally divorced.
- e. Rights, Terms, and Obligations of Securities in Account.** Except as required by Applicable Rules, you are not obligated to notify me of any events involving my securities positions, nor do you have the responsibility to take any actions on my behalf with respect to such events without specific instructions from me. I am responsible for knowing the rights, terms, and obligations of securities in my Account and for monitoring the occurrence of any events involving my securities positions or securities for which I intend to place an order.

6 PRIVACY AND CONFIDENTIALITY

- a. Privacy.** You will take reasonable measures to protect the privacy and confidentiality of information in your possession about my Account and me. Your Privacy Statement explains how you collect and protect my information. The Privacy Statement is incorporated into this Agreement by reference.
- b. Account Number, PIN, or Password.** I will receive a password and/or access number (collectively "PINs") that provide electronic access to my Account. Account numbers, UserIDs, and PINs are confidential, and I am responsible for the confidentiality, protection, and use of them. Subject to the TD Ameritrade Asset Protection Guarantee, I agree to be responsible for all activities in my Account. You may rely that I have authorized any orders or instructions that are received under my Account number and PIN or by initiating an electronic transfer of funds, with or without a letter of instruction.
- c. TD Ameritrade Asset Protection Guarantee.** If I lose cash or securities from my Account due to unauthorized activity, you will reimburse me for the cash or securities I lose. You promise me this protection if unauthorized activity causes losses and you determine it was through no fault of my own. You promise this protection if I do four things: (1) keep my personal identifying information and Account information secure and confidential—because sharing my UserID, password, PIN, Account number, or other standard means of authentication with other people means I authorize them to take action in my Account; (2) keep my contact information up-to-date with you, so that you can contact me in case of suspected fraud; (3) review my Account frequently and my statements promptly and report any suspicious or unauthorized activity to you immediately in accordance with this Agreement; and (4) take the actions you request and cooperate with any investigation. I agree that unauthorized activity does not include any actions or transactions undertaken by or at the request of me, my investment advisors or family members, or anyone else whom I have allowed access to my Account or to my Account information for any purpose, such as trading securities, writing checks, or making withdrawals or transfers.
- d. Phone Conversations and Electronic Communications.** You may record and monitor any telephone or electronic communications with me.
- e. Credit Reports.** I authorize you to request my credit reports to verify my creditworthiness and to provide information to credit agencies. Upon request, you will inform me whether a report was requested and provide me with the name and address of the credit reporting agency that furnished the report. Negative credit information may be submitted to a credit reporting agency if I fail to fulfill the terms of my credit obligations.
- f. Disclosure of Account Information to Third Parties.** Consistent with your Privacy Statement, you and your agents are specifically authorized to disclose information about my Accounts and me to third parties.

7 CLIENT COMMUNICATIONS

- a. Addresses.** You may send communications to the mailing address, email, telephone number, or facsimile number that I provide. You also may deliver information verbally. Communications shall be deemed delivered to me whether or not I actually receive them.
- b. Electronic Signatures.** My use of electronic signatures to sign your documents legally binds me in the same manner as if I had manually signed. The use of an electronic version of these documents fully satisfies any requirement that may be provided to me in writing. If I sign electronically, I represent that I have the ability to access and retain a record of the documents. I am responsible for understanding these documents and agree to conduct business with you by electronic means. I am obliged to review periodically the websites for changes or modifications.
- c. Consent.** By consenting to the electronic delivery of all information relating to my Account, I authorize you to deliver all communications to me by the following means: (1) by email at the email address specified by me; (2) by posting the communication on the websites or other sites on the Internet where the communication can be read and printed; (3) by sending me an email that includes a hyperlink to the websites or an address on the Internet where the information is posted, and can be read and printed; and (4) by sending me a notice that directs me to an address on the Internet or a place within the websites where the communication is posted and from which it can be read and printed. Such delivery will be effective delivery to me for the purpose of any Applicable Rules whether or not I access or review the communication. Although I consent to electronic delivery, you may elect to deliver communications by other means which shall not affect my consent. I will notify you of any change in my address. I may revoke my consent to electronic delivery of communications and receive documents in paper. You have a reasonable period to effect such a change and may charge a reasonable fee for sending paper copies.
- d. Equipment.** If I agree to electronic delivery, I must have a computer with Internet access, an email address, and the ability to download and save or print communications to retain for my records. I am responsible for obtaining and maintaining all equipment and services required for online access of my Account.

ELECTRONIC SERVICES

a. Availability. You do not guarantee that any media will be available to me at a particular time. Access to the websites may be limited or unavailable during periods of peak demand, market volatility, system upgrades, or other reasons.

You reserve the right to suspend and deny access to the Services, without prior notice or for any reason. I recognize that Account activity may be conducted through several different media (for example, Internet and phone); and if a certain medium is not available, I will use another medium to conduct Account activity. You will not be liable for the unavailability, delay, or failure of any of the media at any particular time or for the accessibility of, transmission quality, outages to or malfunction of any telephone circuits, computer system, or software.

b. Use of Services. I will use the Services for lawful purposes, for my personal and noncommercial use, and as permitted by this Agreement. I will not transmit through the websites any material that violates or infringes in any way upon the rights of others or would encourage conduct that may give rise to civil or criminal liability. I will not modify, copy, publish, transmit, license, participate in the transfer or sale of, reproduce, create derivative works from, distribute, redistribute, display or in any way exploit the Services. I will not upload, post, decompile, reverse engineer, disassemble, modify, copy, distribute, transmit, reproduce, republish, license, display, sell or transfer, or create derivative products from the Services. Software accessed on the website is subject to U.S. export controls and may not be downloaded by any person prohibited from doing so by Applicable Rules.

I may download software on a single computer for personal, noncommercial use, provided I keep intact all copyright and other proprietary notices. You and Third-Party Providers reserve the right to revise, modify, change, upgrade, suspend, impose limitations or restrictions on, deny access to, remove, or discontinue the Services at any time without prior notice. Third-Party Providers may enforce this Agreement against me and take action against me for my breach of this Agreement.

c. Limitation of Liability. The Services are provided “as is” and “as available.” You, your affiliates, the Third-Party Providers and their respective licensors, employees, distributors, or agents make no representations with respect to the system and expressly disclaim all warranties. Subject to Applicable Rules, in no event will you, your affiliates, the Third-Party Providers or their respective licensors, employees, distributors, or agents be liable to me or any Third-Party for any direct, indirect, incidental, special, punitive, or consequential losses or damages of any kind with respect to the Services.

I am solely responsible for my investment research, and neither you nor any Third-Party Provider make any representations, warranties, or other guarantees as to the accuracy or timeliness of any market data; nor do you 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 particular security or any other investment.

d. Intellectual Property. My use of the Services will not confer any title, ownership interest, or intellectual property rights to me. The Services are protected under U.S. patent, copyright laws, international treaties or conventions and other laws, and will remain the exclusive property of you or Third-Party Providers. Company names, logos and all related product and service names, design marks, and slogans of you, your affiliates, or any Third-Party Provider are the property of the respective company. I am not authorized to use any such name or mark in any advertising, publicity, or any other commercial manner.

e. Cookies. You use cookies on websites, and my browser will need to accept all cookies for it to perform fully. Certain features of the websites may also require the acceptance of cookies.

f. Hyperlinks. The websites may include hyperlinks to websites owned or operated by affiliated or unaffiliated third parties. Neither you nor Third-Party Providers are responsible for the content or availability of such other websites, and shall not be responsible or liable for any loss in connection with reliance on such sites.

BROKERAGE SERVICES

a. Order Routing and Executions. Unless I specify the market for execution, you decide where to route my orders for execution. You consider a wide variety of factors in determining where to direct my orders, such as execution price, opportunities for price improvement (which is when an order is executed at a price that is more favorable than the displayed national best bid or offer), market depth, order size and trading characteristics of the security, efficient and reliable order handling systems and market center service levels, speed, efficiency, accuracy of executions, and the cost of executing orders at a market. If I instruct you to route my order to a particular market for execution (“Direct Routing”), and you accept my order and instruction, you are not required to make a best execution determination beyond executing the order promptly and in accordance with the terms of my order. Instructions to direct my order to certain market centers could incur additional fees.

b. Deposit and Order Refusal; Account Restrictions. You reserve the right not to accept the deposit of funds or particular securities into my Account and may refuse any of my orders. You also reserve the right to place trading, disbursement and other restrictions on my Account. You may restrict my Account from withdrawals or trading if there is a reasonable suspicion of fraud, diminished capacity, inappropriate activity, or if you receive reasonable notice that the ownership of some or all of the assets in my Account is in dispute. I will not hold you liable for any loss I may incur due to your refusal to permit any deposit, withdrawal or transaction.

c. Trade Execution and Price. You route orders to markets for prompt execution in view of prevailing market conditions, but there can be delays in the processing of orders. I understand and agree with the following:

- The quoted price may not reflect the trading activity from all markets.
- High volumes of trading at the market open or intraday may cause delays in executions and result in prices significantly away from the price quoted at the time the order was entered.
- Markets may handle orders manually and may reduce size guarantees during periods of volatility, resulting in possible delays in order execution, and losses.
- The execution price I receive may be impacted by numerous factors beyond your control and responsibility, including the type of security, liquidity, and the size of my order. For example, large or “block” orders or orders involving illiquid securities may take additional time to execute and may execute at prices significantly different from the quoted price.
- The execution of market and stop-market orders may be at a price significantly different from the quoted price of that security. Limit orders will be executed only at a specified price or better, but there is the possibility that the order will not be executed.
- Securities traded in over-the-counter bulletin board and pink sheet securities and other thinly traded securities present particular trading risks in that they are often more volatile and generally less liquid than securities traded on exchanges. You reserve the right to place restrictions on the trading of such securities without prior notice.
- I may suffer market losses during periods of volatility in the price and volume of a particular stock when systems issues result in an inability to place buy or sell orders.

d. Payment for Order Flow. You may receive remuneration from markets for directing orders to them. The source and amount of these payments are available upon written request. Markets may act as principals to buy, sell, or hold securities for their own accounts, and they may make money when executing your trade.

e. Payment for Transactions. All orders that I authorize will be processed with the understanding that I will pay for any purchase and deliver certificates to cover all sales on or before the settlement date. All sell orders that I place will be for securities that I own ("long") and in deliverable form at the time I place the order, unless I inform you otherwise.

You reserve the right to require full payment, or an acceptable equity deposit, prior to the acceptance of any order. I will have the required cash, available funds, or equity in my Account prior to the execution and/or settlement of a purchase or short sale transaction, and the required securities in my Account prior to the execution and/or settlement of a long sale. If I do not have sufficient funds or securities in my Account, you have the right to liquidate or buy in securities at my expense, and I will be responsible for any cost or loss.

f. Payment of Indebtedness Upon Demand. I will be liable for the payment upon your demand of any obligations owing in my Account, including the reasonable costs incurred in collecting such amounts.

g. Security for Indebtedness. I consent to you having a continuing security interest in, right of set-off to and lien on all securities, cash, and other property in my Account ("Collateral"). Subject to Applicable Rules, and without prior notice to me, you may sell or transfer the Collateral to satisfy my obligations. You also have the discretion to determine which securities and other properties are to be sold and which contracts are to be closed. You have all the rights of a secured party under the Uniform Commercial Code.

h. Short Sales. I will designate any sell order as a "short" sale if at the time I place the order I do not own the security I intend to sell or am unable to deliver the security before settlement. All short sales will be executed in a Margin Account.

i. Mutual Funds. I authorize you to custody mutual fund holdings that I purchase directly through you. When purchasing a mutual fund, I acknowledge that I have received and read the fund prospectus. Mutual fund purchases may be subject to investment minimums, eligibility and other restrictions, as well as charges and expenses. Certain money market funds may impose liquidity fees and redemption gates in certain circumstances.

Some mutual funds sold through you impose a charge on the purchase of shares, called a "sales load." I may be able to purchase mutual fund shares through you without paying a front-end sales load, but I may be charged a fee, called a "contingent deferred sales charge," when I sell or redeem my shares. You may receive part or the entire sales load.

As discussed in the prospectus, some mutual funds agree to waive or reduce front-end sales loads for purchases over certain amounts. I am responsible for determining and obtaining any waivers or breakpoints, or providing you with sufficient information to assist me in obtaining such.

You may receive remuneration from fund companies, including, those participating in your no-load, no-transaction-fee program, for record-keeping, shareholder services, and other administrative and distribution services. The amount of your remuneration for these services is based in part on the amounts held by your clients. Some mutual funds impose a distribution or service fee known as a "12b-1 fee." You may receive the 12b-1 fees in connection with my investment in such fund's shares. If I invest online in no-transaction-fee mutual funds ("NTF funds") directly through you, I will not pay a transaction fee. I also may be able to purchase mutual funds directly from the fund's distributor or underwriter without incurring a transaction fee. You receive remuneration from fund companies participating in the NTF fund program. NTF funds have other fees and expenses that apply to continued investment in the fund that are described in the prospectus.

j. Sweep Program. My available cash may be swept into a cash sweep vehicle pending investment of the cash. The alternatives available under the Sweep Program are referred to as "Sweep Choices," and the one I select is referred to as the "Designated Sweep Vehicle." You will notify me of the Sweep Choices and the Designated Sweep Vehicle.

Cash will be automatically invested or deposited in the Designated Sweep Vehicle, according to a sweep schedule determined by you. Proceeds from the sale of securities will be swept into the Designated Sweep Vehicle following settlement if the securities sold have been received in good deliverable form by the settlement date. The proceeds of any checks that I deposit to my Account will be swept to the Designated Sweep Vehicle on the Business Day after receipt by you and will begin earning dividends or interest on that day. Access to such funds may be withheld for up to six Business Days to assure that such checks have not been returned unpaid. I may instruct you to change my Designated Sweep Vehicle at any time to another of the Sweep Choices, and acknowledge that such instruction shall constitute my authorization to liquidate balances in my Designated Sweep Vehicle and transfer such balances to the new Designated Sweep Vehicle. I authorize you to automatically withdraw cash or redeem securities maintained in a Designated Sweep Vehicle to satisfy my obligations. I authorize you to act as my agent to purchase and redeem balances in the Designated Sweep Vehicles, and authorize you to select and use agents as you deem appropriate.

The Sweep Choices may include money market funds or an FDIC Insured Deposit Account ("IDA") for which you or your affiliates receive, to the extent permitted by Applicable Rules, transaction and other fees for providing services. These fees will vary depending on the money market fund (or share class) or IDA used. No portion of these fees will reduce or offset the fees otherwise due to you unless required by Applicable Rules.

There may be certain minimum requirements for initial and subsequent investments in the Designated Sweep Vehicles. You may change the eligibility criteria or replace the Sweep Choices available to me. You will give me advance notice of any such change in Sweep Choices. Unless I notify you of an objection to such change, I authorize you to withdraw cash or redeem securities held in the prior Designated Sweep Vehicle and to invest or deposit the proceeds in the replacement Designated Sweep Vehicle.

If my Designated Sweep Vehicle is a money market fund or IDA, and my Account is flagged as a "Pattern Day Trader," on the next Business Day you may change my Designated Sweep Vehicle to TD Ameritrade Cash (described below).

1. TD Ameritrade FDIC Insured Deposit Account. If the IDA is my Designated Sweep Vehicle, the available cash in my Account will be automatically deposited in an IDA at TD Bank, N.A. ("TD Bank"); TD Bank USA, N.A. ("TD Bank USA"); or both (individually, the "Bank" or collectively, the "Banks") your affiliates. The IDAs at the Banks are money market deposit accounts held in the name of Clearing for the benefit of its customers. You have arranged the IDAs and account records in such a way that "pass through" FDIC insurance is available to me as if I had opened the IDAs directly in my own name. As a result, my funds at each Bank will be eligible for FDIC insurance in an amount equal to \$250,000 for principal and accrued interest per depositor in each recognized legal capacity (for example, Individual, Joint, IRA). Such insurance will cover my money in each IDA, together with any other deposits held at each Bank in the same legal capacity (for example, Individual, Joint, IRA). Questions about FDIC insurance coverage may be directed to you. Information also may be obtained by contacting the FDIC, by letter (550 17th St, N.W., Washington, D.C. 20429), by phone (877-275-3342, 800-925-4618 [TDD]) or 202-942-3100, by email (dcainternet@fdic.gov) or by accessing the FDIC website at www.fdic.gov.

My available cash will be deposited into an IDA at TD Bank up to a deposit amount of \$247,500 (\$495,000 for Joint Accounts). Any available cash in excess of \$247,500 (\$495,000 for Joint Accounts) will be swept to TD Bank USA without limit, even if the amount in the IDA exceeds the FDIC insurance limits of \$250,000. I am responsible for monitoring the total amount of deposits that I maintain at the Banks in order

to determine the extent of FDIC coverage available to me. I acknowledge that the IDAs constitute an obligation of the Banks and are not an obligation of you. You do not guarantee in any way the financial condition of the Banks or the accuracy of any publicly available financial information concerning the Banks. You will not be responsible for any insured or uninsured portion of the IDAs. Cash in my Account will be automatically swept on a daily basis to the IDAs at the Banks. As required by federal regulations, the Banks reserve the right to require seven days prior notice before permitting a withdrawal out of the IDAs. Currently, the Banks do not intend to exercise this right. In addition, the IDAs have transfer limits that prevent using the IDAs as a transaction account. The following applies to the IDAs:

- When available cash is available for deposit, you will deposit available cash from my Account into an IDA at one or both of the Banks. Your bank sweep vehicle will periodically rebalance so the total amount of my funds in the IDA at TD Bank remains below applicable FDIC insurance limits.
 - All withdrawals necessary to satisfy debits in my Account will be made by Clearing, as my agent. A debit will be created when I purchase securities or request a withdrawal of funds from my Account.
 - If my deposits are held only at TD Bank, withdrawals will be made from the IDA held there. If I have funds in IDAs at both Banks, withdrawals will be made in reverse order, first from the IDA at TD Bank USA until none of my funds remain, and then from the IDA at TD Bank.
 - My Account statement will reflect the balances, activity, and interest earned with respect to the IDAs.
 - The deposit limit at TD Bank is set slightly below FDIC-insurance thresholds to allow for accrued interest on deposits. The deposit limit at TD Bank is set at \$247,500 (\$495,000 for Joint Accounts), which may be reset from time to time based on FDIC-insurance limits and interest rate environment. As a result, the combined FDIC insurance limit will be up to \$500,000 for Individual Accounts, and up to \$1 million for Joint Accounts held by two or more parties. If interest paid on my funds in the IDA at TD Bank results in my total funds in the IDA exceeding the deposit limit at TD Bank, the IDA at TD Bank will be rebalanced the next day and the amounts in excess of the deposit limit will be transferred to the IDA at TD Bank USA.
 - The Banks will determine interest rates on the IDAs at their discretion based upon a variety of factors, including prevailing economic and business conditions, and the nature and scope of your relationship with the Banks. I understand that rates may vary based on the particular offering or the level of my assets held with you. The interest rates paid with respect to the IDAs may be higher or lower than the interest rates available to depositors making deposits directly with the Banks or other depository institutions in comparable accounts. The current interest rate will be available on the website, or I may contact you to obtain the current rate. Interest will accrue on balances from the day they are deposited into the IDAs through the Business Day preceding the date of withdrawal from the IDA. Interest will be accrued daily and credited on the last Business Day of each month.
 - Clearing will act as my agent in depositing funds into the IDAs and withdrawing funds from the IDAs. No evidence of the IDAs, such as a passbook or certificate, will be issued to me. Ownership of the IDAs at the Banks will be evidenced by a book entry on the records of the Banks, and by records maintained by Clearing. I will contact you if I believe there has been any unauthorized activity between my Account and the IDAs, or if I have any complaints regarding the IDAs at the Banks.
 - You may terminate my use of the IDA sweep feature. If you terminate my use of the IDA sweep feature, or do not wish to continue to act as my agent with respect to the IDA, I may deal directly with the Banks, subject to their rules, with respect to establishing and maintaining deposit accounts. In the event you terminate my use of the IDA sweep feature, you will inform me of the replacement sweep vehicle. Similarly, if I decide to terminate my use of the IDA sweep feature, or that I no longer wish to have you or Clearing act as my agent with respect to the IDAs, I may establish a direct depository relationship with the Banks, subject to the Banks' rules. Establishing a direct depository relationship with the Banks will result in the separation of my deposit balances at the Banks from my Account.
 - The Banks use IDA balances to fund current and new investment and lending activity. The Banks seek to make a profit by achieving a positive spread between their cost of funds (for example, deposits) and the return on their assets, net of expenses. You receive a fee from the Banks for marketing, recordkeeping, and support services in connection with the IDAs. In exchange for providing these services, the Banks pay you an aggregate marketing fee based on the weighted average yield earned on the client IDA balances, less the actual interest paid to clients, a servicing fee to the Banks of 25 basis points (subject to adjustment), and the cost of FDIC insurance premiums. The current fee ranges from 1.1 to 1.4%. You have the right to waive all or part of this fee. The rate of the fee that you receive may exceed the interest rate or effective yield that I receive in my balances in the IDAs, and the payment of the fee reduces the yield that I receive. Other than the applicable fees, charged on brokerage accounts, there will be no charges, fees, or commissions imposed on my Account for this cash sweep feature. The current IDA interest rate will be disclosed on your website and may be changed without prior notice.
 - You may add other depository institutions to the IDA sweep feature. I will receive notification in advance of any such change. If a depository institution ceases to make its IDA available through the IDA sweep feature, I will be given an opportunity to establish a direct depository relationship with that institution outside of the IDA sweep feature, or to transfer funds to another depository institution participating in the IDA sweep feature, if available.
 - In the event that FDIC insurance payments become necessary, the FDIC is required to pay principal plus unpaid and accrued interest to the date of the closing of the relevant depository institution, as prescribed by applicable law and regulations. Because there is no specific time period during which the FDIC must make available such insurable payments, I should be prepared for the possibility of an indeterminate delay in obtaining insurable payments. In addition, I may be required to provide certain documentation to the FDIC and you, such as affidavits and indemnities, before any insurance payouts are released to me. For example, if the IDA balances are held by me as trustee for the benefit of trust participants, I may be required to furnish an affidavit to that effect.
- 2. TD Ameritrade Cash.** If I selected TD Ameritrade Cash as my Designated Sweep Vehicle, you will pay interest on available cash in my Account, the rate of which may be changed without prior notice. Interest will be accrued daily, and credited on the last business day of each month. You may vary interest rates among clients in connection with special offers or combinations of services or in other circumstances. TD Ameritrade Cash represents balances pending investment and is not maintained solely for receiving credit interest. TD Ameritrade segregates customer cash consistent with the Securities and Exchange Commission rules and regulations.
- 3. Money Market Funds.** Investments in money market funds are subject to eligibility and other restrictions, as well as charges and expenses, all as further described in the prospectus. Money market funds are securities that may increase or decrease in value. They are not insured or guaranteed by the FDIC, any other government agency, or you, and there can be no assurance that such funds will be able to maintain a stable net asset value of \$1 per share. I understand that I will receive periodic statements for sweep transactions involving money market funds in lieu of immediate confirmations.

k. Callable Securities. I consent to your lottery system for allocation of partial redemption or calls. A description of your procedures for callable securities is available on your website, or hard copies are available upon request.

MARGIN TRADING

a. Margin Account. When I purchase securities on margin, I am borrowing money from you and pledging all securities and other property in my Account as Collateral for these loans. I agree to evaluate my own financial situation, resources, investment objectives, and other relevant circumstances to determine whether margin transactions are appropriate for me. You will not make this determination. Even if I determine that margin is appropriate for me, you determine whether to make such loans to me. I also understand that trading securities on margin involves a variety of risks, including the following:

1. **I can lose more funds than I deposit in the margin Account.** A decline in the value of securities that I purchase on margin may require me to provide additional funds to you to avoid the forced sale of those securities or other securities or assets in my Account. I could lose more than the amount I deposit in my Account.
2. **You can force the sale of securities or other assets in my Account.** If the equity in my Account falls below the maintenance margin requirement, or any higher "house" requirements, you can sell the securities or other assets in any of my Accounts to cover the margin deficiency. I also will be responsible for any shortfall in the Account after such a sale.
3. **You can sell my securities or other assets without contacting me.** Some investors mistakenly believe that a firm must contact them for a margin call to be valid, and that the firm cannot liquidate securities or other assets in their Accounts to meet the call unless the firm has contacted them first. This is not the case. Although you may attempt to notify me of margin calls, you are not required to do so, and even if you have contacted me and provided a specific date by which I can meet a margin call, you can still take necessary steps to protect your financial interests, including immediately selling securities without notice to me.
4. **I am not entitled to choose which securities or other assets in my Account are liquidated or sold to meet a margin call.** Because the securities are Collateral for my margin loan, you have the right to decide which securities to sell in order to protect your interests.
5. **You can increase your "house" maintenance margin requirements at any time, and you are not required to provide me advance written notice of the change.** These changes to your policy often take effect immediately and may result in the issuance of a maintenance margin call. My failure to satisfy the call may cause you to liquidate or sell securities in my Account.
6. **I am not entitled to an extension of time on a margin call.** While an extension of time to meet margin requirements may be available to clients under certain conditions, I do not have a right to any extension. You will determine whether to provide an extension.

b. Initial Margin and Margin Maintenance Requirements. There are rules and regulations covering margin loans, including the initial and margin maintenance requirements for margin Accounts. You may impose more stringent margin requirements, which may change without notice to me.

To trade on margin, my Account must maintain at least \$2,000 in minimum equity. I will meet the margin requirement in my margin Account before entering any order and will satisfy any additional requirements you may have. You may apply all premiums received from options writing against my margin requirements. I have the obligation to monitor the balances in my margin Account to ensure that I maintain sufficient amounts to meet margin requirements at all times.

You may decline to extend credit to me for any reason, subject to Applicable Rules. There may be times when you have extended credit on certain securities, but due to market or other conditions, you may require additional cash or securities.

c. Margin Interest. I will pay interest on any credit provided to me for the purpose of purchasing, carrying, or trading in any security.

d. Margin Interest Rates. You utilize a base rate ("Base Rate") to set margin interest rates. My margin interest rate will vary based on the Base Rate and the margin balance ("Balance") in my Margin Account during the interest period. The Base Rate may be changed without prior notice to me. You will post on the websites any changes to the Base Rate.

e. Interest Calculation. For each day there is a debit balance in my Account, the interest charged for that day is calculated by multiplying the applicable interest rate by my debit balance, with the result divided by 360. The sum of the daily interest charges is totaled at the end of each Account statement period and is posted to my Account on the last Business Day of the Account statement period. I will not earn interest on credit balances in my short Account.

f. Short Sales. Sales designated as "short" are done in my margin Account, and are subject to different margin maintenance requirements than securities purchased on margin. Short sales are subject to certain regulatory rules and cannot be executed under certain market conditions. You may not always have the securities available to facilitate my short sale. You may, without notice, "buy-in" securities to cover any short security position in my Account. I will reimburse you for any losses that you may incur. You may require me to deposit Collateral if the Collateral in my Account becomes insufficient. Short sale proceeds are part of the Collateral that secures your loan to me. I am also liable for all dividends paid on securities that I have sold short.

g. Pledge of Securities and Other Property. You may pledge, repledge, hypothecate, or rehypothecate, without notice to me, all securities and other property that you hold, carry, or maintain in or for any of my margin or short Accounts. You may do so without retaining in your possession or under your control for delivery the same amount of similar securities or other property. The value of the securities and other property that you may pledge, repledge, hypothecate, or rehypothecate may be greater than the amount I owe you, and any losses, gains, or compensation that result from these activities will not accrue to my Account.

h. Loan of Securities. You are authorized to lend to yourself or others any securities you hold in my Account and to carry all securities lent as general loans. In connection with such loans, you may receive compensation and retain certain benefits that I will not be entitled to, such as interest on Collateral posted for such loans. In certain circumstances, such loans may limit my ability to exercise voting rights with respect to the securities lent. I may request that fully paid securities not be used in connection with short sales. I understand that in certain situations in which you have borrowed my securities, I may receive a "payment in lieu" of the dividend issued.

OPTIONS TRADING

If I elect to engage in option transactions, I will be bound by the following additional terms:

a. Suitability. Options are not suitable for all investors. Options trading has inherent risks, and I am prepared financially to undertake such risks and to withstand the losses that may be incurred. I acknowledge I have received or have been given access to the "Characteristics and Risks of Standardized Options" by the Options Clearing Corporation (OCC).

b. General Terms.

- I am responsible for knowing the rights and terms of all options in my Account. I agree to be bound by the FINRA, OCC, and exchange rules applicable to the trading of option contracts.

- If my options trading occurs in a margin Account, it is subject to the terms and conditions applicable to margin trading.
- Settlement on options cleared through the OCC is the business day after the trade date. I shall not exceed the position and exercise limits imposed by the rules of the OCC.
- I am responsible for instructing you as to my intention to exercise option contracts before the expiration date. Absent proper and timely exercise instructions from me, you have no obligation to exercise any right, privilege, or obligation of any option for my Account. I agree that my failure to provide you with proper and timely instructions may result in the option expiring worthless, even though it may have a monetary value on the expiration date. I agree to read carefully the Margin Handbook for additional terms and important information regarding options exercise.
- You and Clearing are authorized to take steps to protect their position and any obligation they have assumed at my request without notifying me.
- If I write (short) a call options contract that requires the delivery of securities to be sold, I may be required to keep the securities in my Account until the expiration of the options period and may not be allowed to sell or withdraw the securities.
- If I write (short) a put options contract that requires payment for securities to be purchased, I may be required to keep sufficient funds in my Account to make the payment until the expiration of the options period, and may not be allowed to withdraw the funds or use them for any other purpose. If I am assigned on the options, Clearing may use the funds for the purchase of the securities without prior notice to me.
- All short equity and some index option positions are available for assignment. Exercise assignment notices for equity or index options are randomly allocated among all clients' short positions by an automated procedure.

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ARBITRATION

This Agreement contains a predispute arbitration clause. By signing an arbitration clause, the parties agree as follows:

- All parties to this Agreement are giving up their right to sue each other in court, including the right to jury trial, except as provided by the rules of the arbitration forum in which a claim is filed.
- Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- The ability of the parties to obtain documents, witness statements, and other discovery is generally more limited in arbitration than in court proceedings.
- The arbitrators do not have to explain the reason(s) for their award unless, in an eligible case, a joint request for an explained decision has been submitted by all parties to the panel at least 20 days prior to the first scheduled hearing date.
- The panel of arbitrators may include a minority of arbitrators who were or are affiliated with the securities industry.
- The rules of some arbitration forums may impose time limits for bringing a claim in arbitration. In some cases, a claim that is ineligible for arbitration may be brought in court.
- The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this Agreement.
- No person will bring a putative or certified class action to arbitration, nor seek to enforce any predispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until: (i) the class certification is denied; (ii) the class is decertified; or (iii) the client is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate will not constitute a waiver of any rights under this Agreement except to the extent stated herein.

I agree that any controversy between you and your affiliates, any of their respective officers, directors, employees or agents, and me (including any of my officers, directors, employees, or agents) arising out of or relating to this Agreement, our relationship, any services provided by you, or the use of the Services, and whether arising before or after the date of this Agreement, shall be arbitrated and conducted under the provisions of the Code of Arbitration of the FINRA except as otherwise provided in the Managed Account Program Client Agreement. If any party unsuccessfully resists confirmation or enforcement of an arbitration award rendered under this Agreement, then that party shall pay all costs, attorneys' fees, and expenses incurred by the other party or parties in confirming or enforcing the award. Arbitration must be initiated by service upon the other party of a written demand for arbitration or notice of intention to arbitrate. Judgment, upon any award rendered by the arbitrator, may be entered in any court having jurisdiction.

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INITIAL PUBLIC AND FOLLOW-UP OFFERINGS

You may participate as underwriter or a member of the selling group of, and provide access to, Initial Public Offerings (IPOs) and follow-up offerings. If I participate in such, I will be bound by additional terms.

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MISCELLANEOUS

a. 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 Rules.

b. Account Handbook. The Account Handbook provided to me upon Account opening, and available on your websites, contains important information about my Account. I will refer to the Account Handbook to learn additional information about the handling of trade orders, the receipt and delivery of funds, Account policies, and other general Account information.

c. Entirety of Agreement. This Agreement, any attachments hereto, the addenda and other agreements referred to in this Agreement and the terms and conditions contained in the Account statements and confirmations contain the entire agreement between you and me; and it supersedes all prior or contemporaneous communications and proposals, whether electronic, oral, or written, between me and you, provided, however, any and all other agreements, if any, between me and you and your affiliates, not inconsistent with this Agreement will remain in full force and effect, and if there are any conflicts between this Agreement and any attachments or other agreements, this Agreement shall prevail.

d. Assignment and Escheatment. I may not assign this Agreement or any rights or obligations under this Agreement without first obtaining your prior written consent. You may assign, sell, or transfer my Account and this Agreement, or any portion thereof, at any time, without my prior consent. The assets in my Account may be transferred to the appropriate state if no activity occurs in my Account within the time period specified by state law.

e. Amendment. You reserve the right to amend this Agreement without prior notice to me or as required by Applicable Rules. The current version of the Agreement will be posted on the websites, and my continued Account activity after such amendment constitutes my agreement to be bound by all amendments to the Agreement, regardless of whether I have actually reviewed them. You are not bound by any verbal statements that seek to amend the Agreement.

f. Termination. You may terminate this Agreement, or close, deactivate, or block access to my Account. If you decide to close my Account and I fail to transfer it to another broker, you may liquidate my Account and send me the proceeds. I will remain responsible for the payment of all obligations incurred in my Account or otherwise. I may terminate this Agreement after paying any obligations owed upon written notice. The Agreement survives termination of the Account.

g. Force Majeure. You will not be liable for loss caused directly or indirectly by conditions beyond your reasonable control, including but not limited to Force Majeure events. "Force Majeure" means events that are beyond the reasonable control of a party, including but not limited to the following: disasters, extraordinary weather conditions, earthquakes or other acts of God, war, insurrection, riot, labor strikes, terrorist acts, government restrictions, exchange or market rulings, suspension of trading, computer or communication line failure, or failure of market centers or transmission facilities.

h. Indemnification. I agree to indemnify and hold harmless you, your affiliates and Third-Party Providers and your and their respective officers, directors, employees, agents, and representatives from any and all liabilities, losses, costs, judgments, penalties, claims, actions, damages, expenses, or attorney's fees (collectively "Losses") resulting or arising directly or indirectly from use of the Services or transactions in my Account, except to the extent that such Losses are the direct result of your gross negligence or willful misconduct.

i. Waiver. Your failure to insist on compliance with this Agreement will not constitute a waiver of any of its rights.

j. Admissibility of Documents in Proceedings. All documents in any format are considered to be true, complete, valid, authentic, and enforceable record of the applicable document, admissible in judicial or administrative proceedings to the same extent as if the documents and records were originally generated and maintained in printed form. I will not contest the admissibility or enforceability of your copy of the documents in any proceeding arising out of this Agreement.

k. Governing Law, Jurisdiction, and Venue. This Agreement will be governed by the laws of the State of Nebraska, but not its conflicts of law provisions. I hereby consent to the jurisdiction of and venue within the State of Nebraska for all disputes arising out of or relating to this Agreement.

Mailing Address:

TD Ameritrade Institutional
PO BOX 650567
Dallas, TX 75265-0567

TDAI 182 REV. 02/17

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

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