

Broker-Dealer Client Relationship Summary (Form CRS)

June 1, 2023

Vanguard Marketing Corporation (VMC)

Registered with the Securities and Exchange Commission (SEC) as a Broker-Dealer.

The services provided by a broker-dealer and other financial services providers, like an investment advisor, will differ, as well as the fees charged by such providers. It's important to understand who can provide you with the level of financial services and investment support you need at a price reasonable to you. The SEC makes free and simple tools and educational materials available to research firms and financial professionals at investor.gov/CRS.

What investment services and advice can you provide me?

VMC, doing business as Vanguard Brokerage Services® (VBS), is a registered broker-dealer that provides a self-directed brokerage platform for retail clients. Through VBS, you can open a brokerage account to 1) buy and sell mutual funds, ETFs, stocks, fixed income products (such as corporate, agency and municipal bonds, U.S. Treasury securities, and certificates of deposit), and options; and 2) participate in margin or fully paid lending, if eligible. You can open general investment taxable accounts or tax-deferred retirement accounts, including traditional IRAs or Roth IRAs. There are no account minimum requirements to open or maintain a brokerage account; however, certain brokerage products and mutual funds may impose minimum initial investment amounts.

VBS accounts include a sweep program that automatically transfers (sweeps) any uninvested funds in that account, such as new deposits or the proceeds from securities transactions, into a default sweep option: Vanguard Federal Money Market Fund, which is sponsored by VMC's parent company, The Vanguard Group, Inc. (VGI).

Clients with eligible accounts may also enroll in a bank sweep product, which is an option under the sweep program that automatically sweeps participants' free credit balances into one or more program banks, where the balances earn interest and are eligible for FDIC insurance, subject to applicable limits.

For more information about account and brokerage services, visit vanguard.com.

We don't provide investment recommendations or monitoring services and don't exercise discretion over VBS accounts.

Conversation starters: Consider these questions before engaging a financial services provider. You can find responses at investor.vanguard.com/CRSFAQ or call one of our representatives at the number provided below.



- Given my financial situation, should I choose a brokerage service? Why or why not?
- How will you choose investments to recommend to me?
- What is your relevant experience, including your licenses, education, and other qualifications? What do these qualifications mean?

What fees will I pay?

When trading with VBS, certain fees and costs may apply depending on 1) the type of securities you trade (e.g., mutual fund expense ratios, purchase and redemption fees, options contract fees, or commissions); 2) how you trade those securities (online or assisted on the phone by a broker-dealer representative) and other brokerage features, options, or services you use (e.g., wire transfers); and 3) your account level, which is generally based on the amount of your qualifying Vanguard assets. The fees and costs you pay may change. If we change fees at our discretion, we'll provide advance notice before such changes, which will be represented in the commission schedule. Visit vanguard.com/commissions for more information about VBS commission and fee schedules.

If a broker-dealer receives transaction-based fees, a retail investor would be charged more when there are more trades in their account. Therefore, the firm may have an incentive to encourage a retail investor to trade often. However, because we don't provide recommendations or monitoring, this conflict is mitigated.

You will pay fees and costs whether you make or lose money on your investments. Fees and costs will reduce any amount of money you make on your investments over time. Please make sure you understand what fees and costs you're paying.



Help me understand how these fees and costs might affect my investments. If I give you \$10,000 to invest, how much will go to fees and costs, and how much will be invested for me?

What are your legal obligations to me when providing recommendations? How else does your firm make money and what conflicts of interest do you have?

We don't provide recommendations. The way we make money creates some conflicts with your interests. You should understand and ask us about these conflicts because they can affect the services we provide you. Here are some examples to help you understand what this means:

We receive payments for our brokerage services through three main sources: clients, third-party funds and service providers, and our parent company, VGI.

Direct client compensation to VBS comes in the form of fees paid related to securities traded, types of transactions, and other broker services used. See the information above about fees.

We receive payments from third parties in the form of 12b-1 and shareholder servicing payments from non-Vanguard mutual funds available through us, and interest or other fees from service providers. These payments may be related to your activities but are paid directly by the service providers and not from your investment. VBS will also generate revenue from the fully paid lending and bank sweep programs. For more details about the bank sweep program's conflicts, visit personal.vanguard.com/pdf/Bank_Sweep_Terms_of_Use.pdf.

We receive compensation from VGI for marketing, distribution, and shareholder servicing services provided by us and our registered representatives in support of Vanguard products, including the money market fund we use for the default sweep program. We also receive compensation from VGI associated with offering brokerage services to our clients. This compensation is generally indirectly derived from investments in Vanguard proprietary products and payment of the funds' expense ratios to VGI or other affiliates.

We don't receive any payment for equities or options order flow, nor do we receive any monetary payments or other direct or indirect benefit that would result in compensation or consideration in return for the routing of client orders.



How might your conflicts of interest affect me, and how will you address them?

How do your financial professionals make money?

Our broker-dealer representatives are salaried employees who aren't paid commissions for products sold, transactions executed, or based on the amount of assets serviced.

Do you or your financial professionals have legal or disciplinary history?

Yes. For more information related to legal or disciplinary history disclosure, visit investor.gov/CRS. You'll find a free and simple search tool to research VMC and its financial professionals.



As a financial professional, do you have any disciplinary history? For what type of conduct?

Where can I find additional information?

You can obtain additional information about VBS by visiting investor.vanguard.com. You can also call one of our representatives at 877-662-7447 to request a copy of this Form CRS.



Who is my primary contact person? Are they a representative of an investment advisor or a broker-dealer? Who can I talk to if I have concerns about how this person is treating me?

Vanguard Brokerage Account Agreement

July 1, 2024

Vanguard Brokerage Services

Vanguard Brokerage Account Agreement

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1. About the Vanguard Brokerage Account

a. Introduction

Vanguard Brokerage Services® (VBS®) is a division of Vanguard Marketing Corporation (VMC) and was created to offer retail brokerage services to clients. VMC, a broker-dealer, is a member firm of the Financial Industry Regulatory Authority (FINRA). VBS offers its clients a brokerage Account, the Vanguard Brokerage Account, in which clients may hold, as well as buy and sell, mutual funds, ETFs, stocks, bonds, options (collectively, "Securities"), and Other Property. This document, the Vanguard Brokerage Account Agreement ("the Agreement" or "this Agreement"), contains terms and conditions, disclosures, and other important information about the Vanguard Brokerage Account and a client's relationship with VBS. This Agreement also explains some of the features and services available for Vanguard Brokerage Accounts.

When You submit an Application to open a Vanguard Brokerage Account (hereafter referred to as "an Account," "the Account," "Your brokerage Account," or "Your Account"), You agree that Your Account, if opened, and any product or service relating to it, and Your relationship with VBS, will be governed by the terms, conditions, disclosures, and other information in this Agreement and in any service- or feature-specific form or brochure. In addition, You agree to be bound by policies that can be found on [vanguard.com](https://www.vanguard.com) or in other documents We provide to You, such as Vanguard Brokerage Services commission and fee schedules, VBS' Privacy Policy, Frequent-Trading Policy, Market-Timing Policy, After-Hours Trading Policy, Dividend Reinvestment Program Policy, etc. VBS may amend this Agreement, change or alter its policies, or separately add, remove, or change any of the features and services offered on an Account. This Agreement supersedes any previous Agreement You, any of Your joint Account Owners, or any of Your Representatives (including fiduciaries appointed for You or Your estate) may have entered into with VMC or VBS relating to Your Account or Your relationship with VBS. Therefore, You should read this and other documents We provide to You carefully and retain them for future reference. If You do not understand any of the terms, conditions, or disclosures in this Agreement, please contact Us or seek the advice of Your attorney.

b. Digital Interaction Expectations

VBS proactively evolves Our offerings and technologies to enable Us to better deliver on Our mission to help clients achieve investment success; core to achieving that is using more modern digital platforms. VBS is committed to helping You navigate toward simpler, more effective digital channels and practices that have proven to be quicker, safer, and more cost-effective. We strongly urge all VBS Account holders to web register and use digital channels like [vanguard.com](https://www.vanguard.com) and Our mobile application to manage Your Account.

To assist with Your understanding of VBS' digital-first service model, VBS has put together the following list of digital interaction expectations of which, by applying for an Account, You acknowledge Your understanding:

1. VBS expects You primarily use digital channels for interactions and communication regarding Your Account, inclusive of e-delivery. VBS provides You with various options to do so, including but not limited to [vanguard.com](https://www.vanguard.com), Our mobile app, instant chat, secure message center, and other electronic means to facilitate efficient and convenient interactions.
2. VBS expects You to provide Your mobile phone number and email address, so that We can contact You via text messaging and other digital means (e.g., secure messages, e-delivery) to service Your Account.
3. VBS expects that You access and use [vanguard.com](https://www.vanguard.com), Our mobile app, or Our automated answering system to perform certain tasks, including but not limited to Account management (e.g., checking Account balances), transaction execution (e.g., placing trades), and research (e.g., requesting quotes). On [vanguard.com](https://www.vanguard.com) VBS provides FAQs, tutorials, and more to assist You in this process.
4. You understand that excessive reliance on Our phone associates for tasks that can be accomplished online may negatively impact Your customer service experience including but not limited to delayed response times, additional fees, and possible Account termination.
5. As set forth in Section 8(f) of this Agreement, VBS reserves the right to resolve Non-Trade Inquiries exclusively on its website or other available channels as opposed to providing such information by phone. Furthermore, at its discretion, consistent with Section 8(c) of this Agreement, VBS reserves the right to close Your Account, or terminate any feature or service at any time, for any reason, and without prior notice, inclusive of not meeting Our Digital Interaction Expectations.

2. How to Contact VBS

Online: [vanguard.com](https://www.vanguard.com)

Many account interactions and communications can be accomplished efficiently using digital channels.

By mail: P.O. Box 982901
El Paso, TX 79998-2901

By phone: 800-992-8327

If You have a complaint about the services VBS provides You, You should direct it to:

Complaints
Vanguard Brokerage Services
P.O. Box 982901
El Paso, TX 79998-2901

3. FINRA's BrokerCheck

FINRA sponsors a program, called BrokerCheck, designed to give investors convenient access to information about the professional background, business practices, and conduct of FINRA member firms and brokers formerly or currently registered with FINRA or a national securities exchange. The BrokerCheck hotline number is 800-289-9999. You may obtain a brochure that describes BrokerCheck by calling the hotline number or at finra.org.

4. Account Protection

a. SIPC Coverage

Securities held in Your Account are held in custody by VBS, a division of VMC. VMC is 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). Securities in Your brokerage account are eligible for SIPC coverage. To obtain information about SIPC, including an explanatory SIPC brochure, please contact SIPC at sipc.org or 202-371-8300.

VBS maintains additional coverage through an insurer that supplements the SIPC coverage available to Securities. Account protection, either under SIPC or the additional insurance maintained by VBS, does not cover fluctuations in the market value of the investments in Your Account. Any positions You may have in Securities held away from VBS are not in VBS' custody or control and are not covered by SIPC or VBS' additional insurance.

b. Eligibility for FDIC Insurance

Clients with eligible Accounts may choose to enroll in Vanguard's Bank Sweep Product which automatically sweeps Free Credit Balances in an Account into one or more participating program banks (each a "Program Bank"), where they earn interest, and are eligible for insurance provided by the Federal Deposit Insurance Corporation ("FDIC").

FDIC insurance provides protection against the loss of Your Sweep Deposits, up to allowable limits, in the event the Program Bank fails. FDIC deposit insurance is backed by the full faith and credit of the United States. Specifically, FDIC deposit insurance coverage is available for deposits subject to the Bank Sweep Product up to the FDIC standard maximum deposit insurance amount ("SMDIA"), which is currently \$250,000 per insurable category of account ownership at that Program Bank, when aggregated with all other deposits held by You at such bank and in the same insurable category of account ownership. Balances subject to the Bank Sweep Product will be eligible for FDIC insurance once they are transferred to and are held at the Program Banks as Sweep Deposits. If you have questions about basic FDIC insurance coverage, you may wish to seek advice from Your own attorney, including concerning FDIC insurance coverage of deposits held in more than one insurable capacity. You may also obtain information by contacting the FDIC, Deposit Insurance Outreach,

Division of Depositor and Consumer Protection, by letter (550 17th Street, N.W., Washington, D.C. 20429), by phone (877-275-3342 or 800-925-4618 (TDD)), by visiting the FDIC Website at fdic.gov/deposit/index.html, or by e-mail using the FDIC's On-line Customer Assistance Form available on its website. Disclosures regarding FDIC insurance coverage are summary only, do not state all of the requirements and conditions of FDIC insurance, and are subject to, and qualified in their entirety by, regulations and guidance of the FDIC.

5. Definitions

We define certain terms throughout this Agreement. Others are defined below:

- **Account:** The Vanguard Brokerage Account, including a Retirement Account, governed by this Agreement. The Account is opened on Your completion, and Our approval, of the appropriate Application.
- **Account Owner:** Each person who has an ownership interest in the Account. If the Account holds community property, an Owner's spouse, whether listed in the registration or not, may be considered an Account Owner.
- **Application or Brokerage Account Application:** The form (paper or electronic) used to open an Account.
- **Bank Sweep Product:** One of the options of VBS' Sweep Program. An FDIC-insured product that may be made available to invest Free Credit Balances and to pay for transactions and receive the proceeds from trades and other transactions in Your Account.
- **Brokerage Activity:** Trades, dividends, interest, and corporate actions activity that occurs in Your Account. Dividend reinvestment in a money market fund may not be considered Brokerage Activity.
- **Control or Restricted Security:** Securities defined in Rule 144 under the Securities Act of 1933 (the '33 Act) as "restricted securities" or Securities issued by an issuer of which You are an "affiliate" (as that term is defined by Rule 144 of the '33 Act) or Securities that are being sold in reliance on Rule 701 or 145(d) under the '33 Act or Securities of which You and the issuer, or its underwriter, have entered into an agreement restricting the transferability of such Securities.
- **Debit Balance:** The amount of money You owe to VBS.
- **Discretionary Trading Authority:** Authority given by the Owner(s) of an Account to a third party (for example, a registered representative or an investment advisor), which permits the third party to decide which Securities to buy or sell in an Account and to make other transactions.
- **EBT:** Electronic Bank Transfer is an electronic movement of money or information using the Automated Clearing House (ACH) Network.
- **FDIC:** The Federal Deposit Insurance Corporation.
- **FINRA:** The Financial Industry Regulatory Authority.
- **Free Credit Balance:** The uninvested cash in Your Account, less what is needed to pay for unsettled purchase transactions, charges to Your Account, or

credit balances designated as collateral. Free Credit Balances are payable on demand.

- **Fund Your Account:** Incoming money intended to be credited to an Account. If there is no Debit Balance, or if the outstanding Debit Balance is less than the incoming money, the funding (or the funding less the debit amount) will Sweep under the Sweep Program.
- **Good Delivery:** The delivery to VBS of freely transferable Securities (that is, properly registered, endorsed, and fully negotiable).
- **Marginable Securities:** Any registered Security, Over-the-Counter (OTC) margin stock, OTC margin bond, or National Market System (NMS) Security.
- **Market Data:** The last sale transaction data, bid and ask quotations, news reports, analysts' reports or research, or other information relating to Securities and the Securities markets.
- **Market Volatility:** Trading conditions characterized by heavy trading, illiquidity, fast markets, unpredictable or steep price fluctuations, or other volatile market conditions that may result in trading disruptions, suspensions, halts or other restrictions impacting either individual Securities or the market as a whole.
- **Other Property:** An investment in Your Account that is not commonly known as a Security.
- **Representative(s):** A person who has been properly appointed as a full or limited agent for a principal, or a fiduciary of, for example, an incompetent person, a trust, a minor, or an estate, or an officer or authorized signatory for an organization.
- **Retirement Account:** A tax-advantaged Account, either an individually owned Account, such as an Individual Retirement Account, or IRA, or one held as part of an employer-sponsored plan, intended to be used primarily as a savings vehicle to provide income in retirement. A Retirement Account can be opened using the appropriate retirement Application and agreeing to the terms in this Agreement and any other agreement that is specific to the type of Account opened, such as the Vanguard Custodial Account Agreement and the Disclosure Statement applicable to an IRA. A Retirement Account may be part of a retirement plan.
- **Security or Securities:** Any note, stock, bond, option, mutual fund, ETF, unit investment trust ("UIT"), or other instrument of investment commonly known as a security.
- **Settlement Fund:** Together, the money market fund and/or Bank Sweep Product options under VBS' Sweep Program to or from which Free Credits are swept.
- **Sweep:** A transaction that moves cash under the Sweep Program.
- **Sweep Program:** The service VBS may provide to its clients to move Free Credit Balances into or out of money market funds and/or Bank Sweep Products.
- **USPS:** The United States Postal Service.
- **Vanguard Fund:** Any mutual fund in the Vanguard family of mutual funds.

- **We/Us/Our/VBS:** Vanguard Brokerage Services, a division of Vanguard Marketing Corporation, and its affiliates.
- **You/Your/Yourself:** An Account Owner and his, her, or its properly authorized Representative.

6. General Terms of the Vanguard Brokerage Account

To open an Account, You must complete and submit the appropriate Application, and VBS must approve Your Application. You do not have an Account until VBS processes and approves Your Application. Once the Account is opened, You are responsible for complying with the terms of this Agreement.

This section of the Agreement explains VBS' Sweep Program, how to enter orders, how to pay for orders, and other information about Your Account and the Securities and Other Property held in it.

a. Sweep Program

VBS has a Sweep Program and may sweep Free Credit Balances into or out of money market funds and/ or Bank Sweep Products. Unless stated otherwise, VBS' default Sweep Program moves free credits in Your Settlement Fund into a money market fund. Clients with eligible Accounts may also choose to enroll in Vanguard's Bank Sweep Product which automatically sweeps Free Credit Balances in Your Settlement Fund into one or more Program Banks. Balances swept to a money market fund may be covered by SIPC, whereas balances under the Bank Sweep are eligible for FDIC insurance. See **Account Protection** for more information. Only cash can move into and out of the Sweep Program; if VBS receives directions to move something other than cash into the Sweep Program, including a direction to transfer shares in kind to or from Your Settlement Fund, VBS will treat the directions as an instruction to transfer cash.

There is no guarantee that cash will Sweep into or out of the Sweep Program. VBS's Sweep Program may decline to accept a purchase for any reason, including, for example, if the size of the purchase may negatively impact a Sweep Program option's operation or performance. If the Sweep Program declines Your purchase, the Sweep will not be processed and no Sweep Program option will be credited. VBS will attempt to notify You if the Sweep Program declines a purchase and to obtain alternative investment instructions. If VBS does not receive alternative investment instructions, or if it cannot process Your alternative investment instructions, the amount of Your attempted purchase will result in a Free Credit Balance in Your Account (which is another sweep option). VBS will not be liable for lost profits, or other losses and damages that allegedly result from a failure or delay to Sweep.

You agree that VBS may, on prior written notice to You, limit, change, or add options to its Sweep Program or end a Sweep Program. If a sweep option under the Sweep Program is temporarily made unavailable

(because, for example, a money market fund closes or a fund determines that a customer is not an eligible investor or a Program Bank refuses deposits), then VBS may sweep to another available option under the Sweep Program or it may opt to reflect cash as a Free Credit Balance in Your Account. If the current money market fund is eliminated or restricted as an option in the Sweep Program, VBS may seek a new money market mutual fund, considering such factors as yield, fees, investment objectives, risks, and current market conditions, or VBS may make available or use another available option or combination of options under the Sweep Program, such as an FDIC-insured Bank Sweep Product or Free Credit Balances in Your Account. After notice, whenever feasible, VBS may change Your investment made through the Sweep Program from one Sweep Program option to another. Pending payments and proceeds and payments and proceeds for trades placed after a Sweep Program option is eliminated, assuming the Sweep Program has not ended, will Sweep into or out of the alternative Sweep Program option and/or be reflected as a Free Credit Balance in Your Account. See **Corporate Actions** for additional information on actions a fund or its transfer agent may take, and **Payment, Equity Deposit, and Settlement** for information on paying for trades.

Cash not swept under the Sweep Program will be reflected as a free credit or a Free Credit Balance in Your Account. VBS expects to receive compensation based on the amount of Free Credit Balances in VBS Accounts.

b. Trading or Disbursement Restrictions

VBS is not required to accept any trade, or take any funding, and it may place trading, funding, disbursement, or other restrictions on an Account or on one or more Securities. These restrictions could relate to or result from many factors, including, without limitation, court orders, tax levies, or garnishments; Market Volatility; requests from, or sanctions or similar restrictions related to the purchase, sale, or transfer of any Securities imposed by a government agency or law enforcement authority; a failure to pay for trades in a timely manner or for trading or trade-related violations; notice of a dispute between Account Owners; if VBS believes that doing so will prevent fraud, financial exploitation or abuse, or to protect vulnerable investors; or VBS' knowledge or suspicion that a violation of any law may or could occur without the restriction. You agree to abide by any such restriction and not to initiate trades or transactions that would violate the restriction. VBS may also eliminate or restrict Your ability to purchase particular Securities or Other Property. VBS also has no obligation to facilitate the sale or transfer of any Securities if it concludes that taking such action(s) is likely to violate applicable laws, regulations, orders, or similar restrictions.

c. Requests for Transactions and Order Entry Services

VBS will accept online or verbal orders from You. You must place all orders electronically at vanguard.com

or through VBS' mobile app; or verbally with one of VBS' brokerage associates. VBS will not accept written orders for the purchase or sale of Securities or Other Property. Online trading is the most efficient way to place trades.

Important information about written orders.

If VBS receives a written instruction accompanied by funding (for example, a check), VBS may treat the instruction as a request to Fund Your Account, with the proceeds (after satisfying outstanding debits) to Sweep.

VBS may accept wires to Fund Your Account, with the proceeds to Sweep. Generally, however, VBS will not accept wires for the purchase of a Security or Other Property. If You send VBS a wire with instructions to purchase a Security or Other Property, including a Vanguard Fund, VBS may, at its discretion, treat the wire as a request to Fund Your Account with the proceeds (after satisfying outstanding debits) to Sweep.

Orders for the purchase or sale of Vanguard Funds may require notification to and/or approval from the Vanguard Fund's manager. Please contact VBS before attempting to place a large transaction.

If a check, EBT, or other item You send to pay for a purchase or to Fund Your Account is returned to Us unpaid, recalled, or otherwise not honored, We may debit Your Account and/or charge Your Account a fee.

VBS may restrict Your ability to withdraw funds recently credited to Your Account.

Additional information for clients who transferred their Vanguard Funds into their Accounts:

Instructions to purchase received by The Vanguard Group, Inc., after You have transferred Vanguard Fund holdings to Your Account. You agree that VBS, at its sole discretion, may treat any instruction received by The Vanguard Group, Inc., for the purchase of a Vanguard Fund as an instruction to VBS to Fund Your Account, with the proceeds to Sweep. VBS' decision to treat any such instruction received by The Vanguard Group, Inc., as an instruction to VBS does not mean that VBS has an ongoing obligation to treat all such instructions received by The Vanguard Group, Inc., as instructions to VBS.

You agree to instruct Your bank to pay on checks made payable to "Vanguard," or any reasonable variation of "Vanguard," when presented to Your bank for payment by either The Vanguard Group, Inc.'s, or VBS' bank. If Your bank dishonors the check for any reason, You agree to pay for the transaction in accordance with the **Payment, Equity Deposit, and Settlement** information noted below.

You agree that The Vanguard Group, Inc., or VBS, or any affiliate of any of them, will not be responsible for any costs or fees incurred by You as a result of Vanguard's or VBS' bank's presentment of a check as described above.

Checkwriting drafts received by The Vanguard Group, Inc., and presented for payment within the 45 days following the transfer of the position to Your Account.

If You have transferred Your Vanguard Fund(s) into Your Account, *immediately upon the transfer of Your Vanguard Funds into Your Account You agree to cease using the checkwriting drafts (CWRs) issued on Your Vanguard Funds and to destroy any unused checks.* If You have written CWRs on a Vanguard Fund You transferred to Your Account, and those CWRs remain outstanding and unpaid at the time of the transfer, You agree that VBS may, in its sole discretion, elect to treat any CWR received by The Vanguard Group, Inc., or its bank in the 45 calendar days following the date You transferred Your Vanguard Funds into Your Account as an instruction to sell sufficient shares of the same Vanguard Fund that the CWR was originally written against to cover the CWR. If at the time the CWR is presented for payment, the balance in the Vanguard Fund that the CWR was originally written against is not sufficient to cover the entire CWR, You agree that VBS may, at its sole discretion, elect to treat the CWR as an instruction to redeem shares from the Vanguard Fund that the CWR was written against and cover the remainder of the CWR by free credit, if any, and/or a redemption of shares from Your Sweep Program or any money market position in Your Account. You agree that You are responsible for any tax consequences associated with the sale of shares to cover the CWR.

If You do not have sufficient shares in the Vanguard Fund the CWR was originally written against, Your Sweep Program and/or any money market position in Your Account to cover the check in its entirety, VBS will not accept the instruction and will direct The Vanguard Group, Inc., to instruct its bank to dishonor (that is, "bounce") the check. You agree that The Vanguard Group, Inc., VBS, or any affiliate of either, will not be responsible for any costs or fees You may incur as a result of a dishonored CWR.

VBS may accept instructions from The Vanguard Group, Inc., to reverse and/or reprocess the transfer of Your Vanguard Funds to Your Account to correct errors made prior to the transfer.

d. Changing or Canceling Orders

It may not be possible for You to cancel an order once You have placed it. If You attempt to cancel or change an order, Your attempt will be treated as a request to cancel or change. VBS will process Your request on a best-efforts basis, but if VBS cannot cancel or change Your order, You will be bound to the terms of the original order You placed.

For VBS' protection, it may, without prior notice, decline, cancel, modify, or reverse Your orders or instructions.

e. Payment, Equity Deposit, and Settlement

You agree to pay for all authorized transactions made in Your Account, including any commissions or fees that VBS might charge. When You purchase Securities and

Other Property on a cash basis, You agree to pay for the Securities and Other Property by settlement date.

VBS may use available funds in Your Account or in any account with its affiliates to settle a transaction. Note: For Retirement Accounts, VBS will only use available funds in Your Retirement Account, or in an account with its affiliates that is part of the same Retirement Account or plan, to settle a transaction.

VBS may require an equity deposit or a full payment before it accepts Your order. When You place an order to sell a Security long, You must own the Security at the time You place the order. You agree to make Good Delivery of the Security You are selling by settlement date. Proceeds of any sale will not be paid until VBS has received Good Delivery of the Security and settlement is complete.

You agree to promptly satisfy any Debit Balance or other indebtedness or outstanding obligation related to Your Account, including, but not limited to, any such indebtedness that results from instructions provided to VBS by You or an Investment Advisor authorized to make transactions in Your Account. We may elect at any time, with or without notice, to make any Debit Balance or other indebtedness or outstanding obligation related to Your Account immediately due and payable.

VBS generally will not accept a tender of Control or Restricted Securities as collateral for an obligation You owe VBS. VBS may, however, in its sole discretion, approve such a tender. VBS' approval of such tenders must be in writing and be given in advance.

If You incur a debt to VBS or any of our affiliates as a result of activity in Your non-Retirement Account, and You do not promptly pay VBS the amount due, You agree that VBS may, at its discretion and without prior demand or notice, sell Securities in the non-Retirement Account that incurred the debt to satisfy the debt, or if there are not enough assets in that non-Retirement Account to satisfy the full amount of the debt, to sell or otherwise liquidate any or all Securities or Other Property in any other non-Retirement Account with VBS or with any of its affiliates in which You have an interest, regardless of whether there are other Account Owners on the other Account(s), and use the sale proceeds to cover the debt. You understand that the other Account(s) may be charged a commission as a result of any such sale.

VBS may also transfer Securities and Other Property from any non-Retirement Account or in any non-Retirement Accounts with its affiliates in which You have an interest to any other non-Retirement Account in which You have an interest, regardless of whether there are other Account Owners on the other Account(s), in order to satisfy deficiencies in any such Account or if VBS thinks Your obligations in any such non-Retirement Account are not adequately secured.

Important Note for Retirement Accounts: If You incur a debt to VBS or any of our affiliates as a result of activity in Your Retirement Account, You must promptly

pay VBS the amount due. If You do not, You agree that VBS may sell Securities in the Retirement Account that incurred the debt to satisfy the debt. If You do not have sufficient assets in the Retirement Account held with VBS to satisfy the amount You owe, You agree that VBS may require You to sell Securities that You hold in other Accounts (and You agree to execute all documents and/or give oral instructions as necessary to effect the sale), whether held with VBS or with its affiliates, that are part of the same retirement plan and use the proceeds to cover the debt. You understand that Your Account may be charged a commission as a result of any such sale.

To satisfy a Debit Balance in a Retirement Account with a sale of Securities or Other Property, VBS may only sell Securities that are in the Retirement Account that incurred the debit or in an Account held with an affiliate that is part of the same retirement plan. If VBS sells Securities or Other Property to satisfy a Debit Balance, Your Account and any other account held with an affiliate that are part of the same retirement plan are responsible for all costs and commissions related to such a sale.

You understand that VBS may apply any dividends, capital gains payments, interest payments, or other funds coming into an Account, such as incoming funds by check, EBT, wire, or Direct Deposit, or funds that would otherwise be invested through the Vanguard Brokerage Dividend Reinvestment Program, to cover fees or other indebtedness to VBS. Debit Balances in Your Account will be charged interest in accordance with VBS' established rules and policies.

f. Security for Indebtedness for Non-Retirement Accounts

As security for the repayment of all present or future indebtedness owed to VBS by each Account Owner, each Account Owner grants to VBS a first, perfected, and prior lien on, a continuing security interest in, and right of set-off with respect to, all Securities and Other Property that is, now or in the future, held, carried, or maintained for any purpose in or through VBS, and, to the extent of such Account Owner's interest in or through, any present or future account with VBS or its affiliates in which the Account Owner has an interest. You agree to indemnify VBS for any loss or expense that VBS may incur in enforcing its lien or any other remedies available to it, including the reasonable cost of collection. This paragraph does not apply to assets in a Retirement Account.

g. Checks, EBTs, or Other Items Returned Unpaid, Recalled, or Dishonored

If a check, EBT, or other item You remit to VBS is returned unpaid, recalled, or otherwise not honored, VBS may charge a fee to Your Account. Also, for VBS' protection, VBS may restrict Your ability to withdraw funds recently added to Your Account by check or EBT. VBS may restrict Your ability to use recently added funds to settle a Securities transaction, and/or decline to

accept orders until recently added funds are collected or otherwise validated.

h. Foreign Securities Trading, Settlement, and Custody

VBS may act as agent for foreign Security orders traded in local markets. VBS' policy is to settle foreign Security trades in U.S. dollars. Foreign account activity, including, but not limited to, trades, transfers, dividends, and other corporate actions, may be automatically converted to or from U.S. dollars. VBS has an established partnership with JPMorgan (JPM) to facilitate the clearance and settlement of foreign Security transactions. Your foreign Securities may be custodied through JPM or any subcustodian located in a particular local market and will be held at JPM in an account established for the exclusive benefit of customers of VBS.

i. Securities Held in Street Name

Securities and Other Property that are held for Your Account and that are in "street name," or are being held by a Securities depository in VBS' name, may be commingled with the same Securities being held for other clients of financial organizations and for VBS' own clients. VBS is responsible for ensuring that its records reflect Your ownership of these Securities and Other Property. For Accounts other than a Retirement Account, You have the right at any time to request delivery to You of any such Securities or Other Property that are fully paid for or are in excess of margin requirements.

j. Corporate Actions

Mutual Fund Mergers, Share Conversions, or Other Fund Actions

A mutual fund, or its transfer agent, may merge fund shares held in Your Account to another fund pursuant to a fund merger, convert shares from one class to another, or take other actions as described in each fund's prospectus. VBS will accept the direction of a fund or its transfer agent to merge, convert Your shares, or take other action.

Interest, Dividend, and Other Payments

If You are entitled to receive dividend, interest, or other payments on the Securities held in Your Account, VBS will allocate distributions to Your Account.

Optional Dividends

When a company offers its shareholders a choice to receive a dividend either in cash or stock, VBS will use the dividend reinvestment election(s) on Your Account as the basis for choosing cash or stock. Accounts that have elected to have dividends reinvested (either at the Account level or for the specific Security) will be credited with stock, while Accounts that have elected to receive dividends in cash (either at the Account level or for the specific Security) will receive cash.

Callable Securities

Many bonds allow the issuer to redeem or call an issue prior to maturity date. Certain preferred Securities can

also be called by the issuer. Some calls are "partial" calls, meaning that only some shares are called. If a Security that You and other clients of VBS hold is partially called, VBS will determine, through a random selection procedure, which Securities will be submitted for redemption without regard to unsettled sales. If the Securities held in Your Account are selected and redeemed, Your Account will be credited with the redemption proceeds.

Should You wish to opt Your non-Retirement Account(s) out of this random selection process, You must instruct VBS to deliver Your Securities to You. We will deliver the Securities provided that they are unencumbered and they have not already been called by the issuer. The probability of one of Your Securities being called is the same whether they are held by You or by VBS for You. You cannot opt out of the random selection process for assets held in a Retirement Account because We cannot deliver assets held in a Retirement Account to You.

To review VBS' procedures for the client allocation of Securities selected for redemption in the event of a partial redemption, visit vanguard.com. To request a free, printed copy of VBS' allocation procedures, contact VBS

Nontransferable Securities

If You hold nontransferable Securities in Your Account, VBS may remove the Securities from Your Account without prior notice. Securities become nontransferable when there are no transfer agent services available for the Securities. If nontransferable Securities are removed from Your Account, You should consult with Your tax advisor about any potential tax implications. The position removal will be documented on Your subsequent Account statement.

Credits to Your Account

VBS credits to Your Account funds belonging to You such as dividends, interest, redemption proceeds, or the proceeds of corporate reorganizations on the day such funds are received by VBS. An issuer or an intermediary may earn interest on funds held in its possession. If an issuer or intermediary passes such interest along to VBS, VBS will keep the payment.

VBS can provide further information on when Your Account will be credited with funds due to You, when those funds are available to You, and/or when You begin earning interest on those funds.

k. Disclosure of Account Information

We may disclose Your name and/or information about Your Account or Your transactions consistent with Our Privacy Policy and pursuant to Rule 14b-1 under the Securities Exchange Act of 1934 to companies whose Securities You hold unless We receive Your written objection. Different rules apply for European Union domiciled Securities, and You may not be able to opt out of Our disclosure of shareholder identifying information to issuers of such Securities. For additional information about Our Privacy Policy, visit Our Privacy Center at

investor.vanguard.com/privacy-center/home-page. In addition, if You request a large transaction in a Vanguard Fund, including in Your Settlement Fund (if it uses the money market fund Sweep Program option), VBS may disclose information about You and/or Your Vanguard Fund holdings to The Vanguard Group, Inc.

l. Delivery of Required Information, Other Documents, and Notices About Your Account

You may consent to receive Confirmations, Statements, and other Account information electronically. E-delivery is an efficient way to facilitate Account communications. If You do not consent to e-delivery, VBS or its mailing vendor will use the USPS to deliver the information to You. However, to receive certain VBS products, services, or offers, including, for example, online trading, VBS may require that You consent to electronic delivery of certain documents.

VBS will direct communications to the mailing address, email address, or phone number We have for You in Our files (that is, the contact information You provided on Your Account Application or later updated). Any communication (required or otherwise) that VBS directs to such a mailing address, email address, or phone number will be considered delivered to You, whether or not the communication is actually received.

m. Provision of Market Data

We may provide You with Market Data, and may charge You a fee for doing so. We obtain Market Data from Securities exchanges, markets, and from parties that transmit Market Data ("Market Data Provider" or collectively, "Market Data Providers"). All Market Data are protected by copyright laws. We provide Market Data for Your personal noncommercial use; You may not sell, market, or distribute Market Data unless You have entered into a written agreement with the appropriate Market Data Provider that allows You to sell, market, or distribute the data.

We receive the Market Data from industry sources that are believed to be reliable. However, neither VBS nor the Market Data Providers can guarantee the accuracy, completeness, timeliness, suitability for use, or correct sequencing of the Market Data. Neither VBS nor the Market Data Providers will be liable to You for interruptions in the availability of Market Data or Your access to Market Data.

The Market Data are provided "as is" and on an "as available" basis. There is no warranty of any kind, express or implied, regarding the Market Data. We are not responsible for, and You agree not to hold VBS liable for, lost profits, trading losses, or any other damages resulting from Market Data or Your use of the data. In any case, Our liability arising from any legal claim (whether in contract, tort, or otherwise) relating to the Market Data will not exceed the amount You have paid for use of the services or Market Data. You agree that We may correct any execution reported to You that was based on inaccurate Market Data

provided to VBS by an exchange, market center, or other provider.

n. Extended-Hours Trading

VBS offers online access to participate in extended-hours trading sessions. If You participate in extended-hours trading, You agree to terms and conditions that are disclosed on the website and that You understand the risks of trading in an extended-hours session.

o. Best Execution and Payment for Order-Flow Practices

VBS routes equity and options orders to various market participants. VBS uses a top-down approach in selecting the market participants with which We will establish a relationship. This approach includes a review of system availability, quality of service, and financial and regulatory standing. The designated market participants to which orders are routed are selected based on the consistent high quality of their executions in one or more market segments. In analyzing quality of executions, VBS considers factors such as liquidity enhancement, price improvement, execution speed, and overall effective price compared with the national best bid and offer (NBBO). VBS regularly conducts analysis and reviews reports for quality of execution purposes.

VBS is required to make publicly available quarterly reports that disclose the venues to which orders were routed as well as the nature of Our routing relationships, including any payment for order-flow arrangements. You can access this information by visiting vanguard.com.

In addition to the publicly available reports, VBS, upon written request, will provide information related to Your orders that were routed for execution in the past six months. This information will include the venue to which Your order(s) was (were) routed, whether the order(s) was (were) directed or nondirected, and the time of the transactions.

VBS does not receive compensation for directing order flow in equity Securities. Similarly, VBS does not receive compensation for directing options Securities to Our execution partners, but reserves the right to do so in the future.

Access to Tradeweb Markets LLC

VBS provides availability to the Alternative Trading Systems operated by Tradeweb Markets LLC ("Tradeweb") and to other content provided by Tradeweb. Tradeweb provides access to certain municipal bond information from DPC DATA. Tradeweb and DPC DATA are third parties and are not affiliated with VBS. While VBS provides access to Tradeweb's Alternative Trading Systems, VBS has no control over actions taken by Tradeweb. All content, with the exception of new issue municipal content, is provided by Tradeweb and DPC DATA; VBS is not responsible for the accuracy of content provided by Tradeweb or DPC DATA. New issue municipal content on the Tradeweb pages is provided by VBS. All offerings are subject to

market conditions, prior sale, and/or Tradeweb's clearly erroneous policy.

p. Certificates of Deposit (CDs)

All brokered CDs will fluctuate in value between purchase date and maturity date. CDs may be sold on the secondary market prior to maturity, subject to market conditions, which may be limited. Any CD sold prior to maturity may be subject to a substantial gain or loss. VBS does not make a market in brokered CDs. The original face amount of the purchase is not guaranteed if the position is sold prior to maturity. CDs are subject to availability. All CDs are federally insured up to \$250,000 per bank. In determining the applicable insurance limits, the FDIC aggregates accounts held at the issuer, including those held through different broker-dealers or other intermediaries. For additional details regarding coverage eligibility and insurance limits for other types of accounts, visit fdic.gov. The minimum purchase for new issues is \$10,000. Yields are calculated as simple interest, not compounded. Brokered CDs do not need to be held to maturity, charge no penalties for redemption, and have limited liquidity in a secondary market. If a CD has a step rate, the interest rate of the CD may be higher or lower than prevailing market rates. Step-rate CDs are subject to secondary market risk and often will include a call provision by the issuer that would subject the investor to reinvestment risk. The initial rate of a step-rate CD cannot be used to calculate the yield to maturity. If a CD has a call provision, the issuer has sole discretion whether to call the CD. If an issuer calls a CD, there is a risk to the investor that the investor will be forced to reinvest at a less favorable interest rate. VBS makes no judgment as to the creditworthiness of the issuing institution and does not recommend or endorse CDs in any way. For additional information with respect to CDs, visit vanguard.com. Additional information is available at fdic.gov.

q. Fractional Shares

As a VBS client, You may acquire a fractional share interest in a single Security (a "Fractional Share") in several ways. For example, You may receive a Fractional Share: (a) as a result of the reinvestment of a dividend if You participate in VBS' dividend reinvestment program; (b) as a divided interest in whole shares resulting from a life event, such as divorce or inheritance; (c) as a result of placing a Dollar-Based Trade (as defined in VBS' Dollar-Based Trading Terms of Use); or (d) as a result of the conversion of conventional mutual fund shares issued by a Vanguard Fund to ETF Shares of equivalent value of the same Vanguard Fund (refer to Vanguard ETF prospectuses for further information regarding the conversion privilege). Fractional Shares present unique risks and have certain limitations and may have different rights from a whole share of the same Security. For information on Dollar-Based Trading, refer to VBS' Dollar-Based Trading Terms of Use available by logging in to vanguard.com and searching **Buy stocks & ETFs online** and selecting **Trade Help** under **Buy & sell stocks**

& ETFs. IMPORTANT: The Fractional Share rights and limitations described below apply to certain Securities, but do not apply to mutual funds. For further information on rights and restrictions related to mutual funds, please consult the mutual fund prospectus and statement of additional information.

- i. *Eligibility for Dividends and Dividend Reinvestment.* You will receive dividends on Fractional Shares unless Your prorated amount of the dividend is less than one half of one cent (\$0.005). Fractional Shares are eligible for automatic reinvestment of cash dividends received, at Your election, subject to the terms of VBS' dividend reinvestment program. If You participate in dividend reinvestment and Your dividend for a particular Security would equate to less than .0005 shares, then You will receive Your dividend in cash.
- ii. *Corporate Actions.* The eligibility of Fractional Shares to participate in corporate actions may be different than whole shares. For mandatory reorganizations, such as mergers and acquisitions, stock splits, or spin-offs, typically VBS will distribute Your interest in proportion to Your ownership interest, inclusive of any Fractional Shares. However, only whole shares, and not Fractional Shares, are eligible to participate in voluntary corporate actions, including tender offers and certain rights offerings. If You are to receive Fractional Shares as the result of a stock split or other corporate action for a Security held in Your Account, VBS, in its sole discretion, may either sell the shares on the open market or to the issuer or transfer agent. You are entitled to receive Your pro rata portion of the proceeds of any such sale. If sold on the open market, Fractional Shares may receive a price that differs from that offered to certain registered owners by the issuer or transfer agent.
- iii. *Voting Rights.* VBS works with a vendor that aggregates any proxy votes for Fractional Shares of VBS' clients with all votes reported to the issuer or issuer's designated vote tabulator. VBS' vendor will report such proxy votes on Fractional Shares, but the issuer or tabulator may not fully count such Fractional Share votes.
- iv. *Stock Certificates.* Stock certificates cannot be issued for Fractional Shares.
- v. *Transferability.* Fractional Shares are not currently transferrable to another brokerage firm. If, for example, You own 10.5 shares of an individual stock and You transfer the Securities in Your VBS Account to another firm, 10 shares will be transferred. Your 0.5 Fractional Share will be acquired and liquidated by VBS, and will receive the closing price from the trading day immediately preceding the transfer of Your whole share(s). VBS will distribute these proceeds in Your Account and will provide confirmation of the Fractional Share liquidation on Your periodic statement. Since Your Fractional Shares cannot be transferred, Your overall SIPC coverage may be affected.

vi. *Auto-Liquidation of Certain Fractional Shares.* Unless you have established a position in an Eligible Security (as defined in VBS' Dollar-Based Trading Terms of Use) via Dollar-Based Trading, You generally may not hold only a Fractional Share without at least one corresponding whole share. VBS will automatically sell ("Auto-Liquidate") Your Fractional Share under the following two scenarios:

1. "Sell-All" Trades. If You own whole shares and a Fractional Share in a Security, VBS will Auto-Liquidate Your Fractional Share holding when You place a share-based order to sell Your entire whole share position. For example, if You own 10.2 shares in a Security and sold all 10 shares, VBS would Auto-Liquidate the remaining .2 Fractional Share. That Fractional Share will receive the same price as the corresponding whole shares, and will be prorated to reflect Your Fractional Share ownership in that Security. VBS will place the proceeds of that sale into Your Account.
2. "Orphaned" Fractional Shares. As a result of certain actions, Your Account may own a Fractional Share without a corresponding whole share position in a Security. For example, as described above, Fractional Shares cannot be transferred to another firm. Therefore, if You own whole shares and a corresponding Fractional Share in a Security and transfer those Securities to another firm, VBS will transfer the whole shares, and then Auto-Liquidate any remaining Fractional Share. Under these circumstances, You will receive the previous day's closing price for any "Orphaned" Fractional Share Auto-Liquidated by VBS, prorated to reflect Your Fractional Share interest.

vii. *Auto-Liquidation and Dollar-Based Trading.* If You establish a new position in an Eligible Security through a Dollar-Based Trade, VBS will turn off the Auto-Liquidate feature for that Eligible Security in the Account in which You placed that trade. Further information on Auto-Liquidation and its impacts on Fractional Shares acquired by Dollar-Based Trades is available in VBS' Dollar-Based Trading Terms of Use.

viii. *Capacity.* VBS may trade the Fractional Share component of any Security trade You place (or placed on Your Behalf) on a principal or agency basis. Refer to Your trade confirmation or periodic statement, as applicable, for specific capacity.

r. Class Action Service (applicable only if You have not opted out)

You understand and agree that eligible Vanguard Brokerage Accounts are automatically enrolled in VBS' Class Action Service (the "Class Action Service"). Closed Account(s) are not included in the Class Action Service. If Your Account(s) is excluded from the Class Action Service, You may still participate in a class action lawsuit by submitting a paper-based claim form directly to the claims administrator.

You understand and agree that the enrollment of Your Account(s) in the Class Action Service authorizes VBS to automatically file a claim on Your behalf if We receive notice of a potential class action lawsuit that impacts Securities purchased in Your Account(s) ("Impacted Security"). You may cancel Your enrollment in the Class Action Service at any time by notifying Us. If You cancel Your enrollment in the Class Action Service and wish to reenroll, You will be required to agree to the terms and conditions for the Class Action Service in effect at the time of reenrollment. Canceling Your enrollment in the Class Action Service or closing Your Account(s) after a claim has been filed on Your behalf will not remove You from participation in that particular class action lawsuit. VBS reserves the right to terminate the Class Action Service at any time with notice to You.

If You are entitled to any class action settlement, You will receive a credit to the Account(s) in which the purchase of the Impacted Security took place if the Account(s) remains open or, if a settlement is received after You close the Account(s) in which the purchase of the Impacted Security took place, a check will be mailed to the most recent address that We have on file for Your closed Account(s) irrespective of whether You still have other open Accounts enrolled in the Class Action Service.

VBS uses a vendor to facilitate the Class Action Service. In exchange for administering the Class Action Service, a fee will be deducted from any class action settlement payment received on Your behalf as part of the Class Action Service prior to deposit of proceeds into Your Account. Refer to the Vanguard Brokerage Services commission and fee schedules for details regarding the fee.

You agree that You cannot separately bring a lawsuit on Your own behalf, either contemporaneously or in the future against any named defendant in connection with such particular class action lawsuit. You further understand and agree that once the Class Action Service files a class action claim on Your behalf, You will not assert: (a) any dissenters' or similar rights under any applicable law, rule, or regulation; (b) any right to require partition or appraisal of any company that is the subject of a potential class action lawsuit or of any of said company's assets or to cause the sale of such company's property; or (c) any right to maintain any action for partition or to compel any sale with respect to shares held by other shareholders or with respect to any of said company's property.

Enrollment of Your Account(s) in the Class Action Service does not guarantee that You will receive a settlement payment for any given class action lawsuit. Neither VBS nor our affiliates take any responsibility for the outcome of any given class action lawsuit, and You agree to indemnify and hold VBS and Our affiliates harmless for all actions taken in connection with the Class Action Service. You further understand that the greater the number of clients enrolled in the Class

Action Service, the smaller any potential settlement payment received by each client will be in the event of any class action settlement recovery.

7. Your Role

As an Account Owner, or his, her, or its properly authorized Representative, You have certain responsibilities. For example, You are responsible for providing accurate and complete information on the Application and for submitting any additional information documents that VBS requires at the time Your Account is opened or at any time afterward. Once Your Account is opened, You are responsible for fulfilling the obligations arising under this Agreement or relating to the Account. If there is more than one Account Owner, each Account Owner is jointly and severally liable for obligations arising under the Agreement or relating to the Account. You should also refer to the confirmations and statements We send to You, the current VBS commission and fee schedules, as well as any brochures and forms that describe Account services and features for additional information about Your responsibilities and obligations.

a. Account Information

If any of the information You provided on Your Application changes, You should notify VBS immediately. You should notify Us, for example, if You, or a household member, becomes a control person or an affiliate of a public company (such as, but not limited to, a member of a board of directors, a 10% shareholder, or a policymaking executive), or if You or Your spouse becomes an employee of FINRA or becomes associated with a member of a stock exchange, a FINRA member firm, or a municipal securities dealer.

You should also notify Us immediately if Account authority changes. For example, if You revoke a third party's authority or a Representative's authority to act or inquire on Your Account, or for jointly owned Accounts, a joint Account Owner dies, You should notify Us.

If You provide us with a mobile phone number, You agree and consent that VBS and its affiliates may contact You at that mobile number with telephone calls that may use an autodialer and by text messages for the purposes of servicing of Your Account(s) or investigating and preventing fraud. We will not use texts or autodialed calls to contact You for marketing purposes unless we receive Your prior express written consent. You do not have to agree to receive autodialed calls or texts to your mobile phone number in order to use the products and services offered by Vanguard. You may unsubscribe from receiving text messages by texting STOP, CANCEL, UNSUBSCRIBE, QUIT or END to 82393. Additionally, you can contact VBS and an associate can unsubscribe you. Standard telephone minute and text charges may apply. Vanguard's Activity and Appointment Alerts Terms and Conditions of Use are available at vanguard.com.

Please pay close attention to the mailing address, email, phone number, and banking information on Your Account. You are responsible for keeping this information up to date.

Delivery of Distributions/Withdrawals: If You request a distribution or withdrawal from Your Account, but We are unable to deliver the funds as instructed or We have questions on the instructions, VBS will attempt to contact You for corrected or revised delivery instructions or for additional information. If You do not provide VBS with corrected or revised delivery instructions or the requested information promptly, VBS may return the funds to Your Account with the proceeds to Sweep. For Retirement Accounts: If funds are returned to Your Account for one of the reasons noted above, Your Account records (including the tax records) will reflect that the distribution did not occur.

Dormant Accounts, Uncashed Checks: You should periodically log on to Your Account at vanguard.com or through Our mobile app or contact VBS about Your Account, even if You do not wish to make a transaction. If Your Account has had no activity in it for a period of time or You have not contacted Us about the Account, VBS may be required to transfer it to a state under the state's unclaimed property laws. Also, VBS may be required to turn over uncashed checks as unclaimed property; You should promptly cash or deposit any check VBS sends to You and instruct third parties to whom You direct VBS to send checks to do the same.

b. Paying for Transactions and Account Fees, and Return of Overpayments or Uncollected Fees

You are responsible for paying for all authorized transactions made in Your Account, including paying the commissions, processing, or other fees associated with the transactions. You are also responsible for paying any service or other fees imposed on Your Account. Our commissions and fees are detailed in the VBS commission and fee schedules, which are incorporated by reference into this Agreement. Certain clients, individually or as members of a category of clients, may pay different commissions and fees, or none at all, based on assets or activities in their Accounts. VBS reserves the right to change or waive commissions and fees at its discretion. If VBS is required to do so, it will notify You of the changes made to its commissions and fees. Your continued use of Your Account or the applicable service following such a change means You have consented to the change.

If You do not pay for Your transactions or the fees associated with Your Account, then VBS may, on its own behalf and on behalf of its affiliates, cancel Your transactions, liquidate assets, restrict Your Account, or take other appropriate action in seeking payment for the transactions and/or fees. You will be responsible for satisfying all debits and for paying all costs, commissions, and/or losses arising from any actions VBS takes to liquidate or close transactions in Your Account, or from Your failure to make timely Good Delivery of Securities and Other Property. See also **Payment, Equity Deposit, and Settlement** for additional information.

And, if You know or suspect that You have received an overpayment of funds or Securities or Other Property, or if You know or suspect that VBS failed to collect a fee You incurred, You are responsible for notifying VBS as soon as You learn of the overpayment or uncollected fee. You agree not to remove the overpayment or the uncollected fee from the Account. If You do remove the overpayment or uncollected fee, You are responsible for promptly returning the full overpayment or fee to VBS. If You fail to do so, You will be liable to VBS not only for the amount of the overpayment or uncollected fee, but also for all interest, costs, and expenses associated with its recovery.

c. Authority to Transact on an Account

Generally, an adult Account Owner, and/or his, her, or its properly authorized Representative, has authority to transact on his, her, or its individually owned Account. If an Account has more than one Owner, each Account Owner has authority, acting individually and without notice to any other Account Owner, to deal with VBS as fully and completely as if the Account Owner was the sole Account Owner. Notwithstanding the preceding, VBS may, from time to time or for certain transactions, require the consent of all Account Owners.

If Your Representative's authority is revoked, You are responsible for providing VBS with notice of the revocation in a form and manner acceptable to VBS. You remain responsible for transactions effected in Your Account after a Representative's authority has been revoked but before VBS was provided notice and had an opportunity to react to the notice of revocation. See also the **Authorized Access to an Account** and **Liability** sections of this Agreement for additional information.

d. Compliance With Policies, Rules, and Laws

You, and the transactions You make or attempt in Your Account, must comply with the policies that can be found on vanguard.com or in other documents We provide to You, such as VBS' Privacy Policy, Frequent-Trading Policy, Market-Timing Policy, After-Hours Trading Policy, Dividend Reinvestment Program Policy, etc., as well as Our house trading rules and policies, as these rules and policies may be amended from time to time. In addition, You and the transactions You make or attempt in Your Account must comply with all applicable rules, regulations, customs, and usage of any exchange, market, or clearinghouse where the transactions are executed, as well as with any applicable laws, rules, regulations, or guidance of any international, federal, state, or self-regulatory agency or instrumentality. If VBS places a restriction on Your Account, You agree to abide by the restriction and to not initiate trades or transactions that would violate the restriction.

e. Control or Restricted Securities

You agree to tell Us whether You hold any Control or Restricted Securities in Your Account, and their statuses, and whether there are any other contractual lockup, blackout, or additional restrictions on Your

ability to sell such Securities. You also must furnish promptly whatever information and documents VBS might need to comply with its regulatory obligations relating to the Control or Restricted Security. Furnishing the information that VBS might need on Control or Restricted Securities is not an order to sell those Control or Restricted Securities; orders to sell must be placed by available order entry means, preferably online, meaning through vanguard.com or Our mobile app. You agree that You are responsible for all costs, including the cost to repurchase Securities if You sell Securities that are later found to be restricted or nontransferable. You further acknowledge that proceeds from the sale of Control or Restricted Securities will not Sweep or be made available to You for withdrawal or trading purposes until VBS receives what it, in its sole opinion, considers to be adequate verification that Your Control or Restricted Securities have been transferred or cleared for transfer.

Because Control or Restricted Securities transactions require special handling by both VBS and third parties, processing transactions in those Securities could take several weeks or longer, during which time the price of the Control or Restricted Securities may fluctuate. You understand that You, and not VBS, bear the risk of such market fluctuations, as well as for delays in the sale (or settlement of such sale) of Your Control or Restricted Securities that result from the failure of issuer's counsel to issue or approve any necessary legal opinion, the failure of the transfer agent to process Your shares, or any other third party's action or failure to act.

You cannot tender Control or Restricted Securities as collateral for an obligation You owe VBS unless You have obtained, in writing, VBS' preapproval of such a tender.

f. Identifying as a Large Trader

If Your transactions in NMS Securities equal or exceed two million shares or \$20 million a day, or 20 million shares or \$200 million a month, You are a Large Trader and You must identify Yourself as such with the Securities and Exchange Commission (SEC). These thresholds apply not only to Accounts that You own but also to Accounts over which You have investment discretion, such as agent authority. If You meet the definition of a Large Trader, You must file Form 13H with the SEC (available at sec.gov) to obtain from the SEC a unique ID number. You must provide this unique ID to all broker-dealers with which You trade, including VBS, so that the broker-dealers can provide accurate trading records to an appropriate regulator upon the regulator's request.

g. Understanding Terms of Securities and Other Property, and for Trading Decisions

You are responsible for knowing the rights and terms of Your Securities and Other Property, and for taking action to realize the value of Your Securities and Other Property. You agree that VBS is not liable for any decrease in the value of Your Securities and Other Property or other losses resulting from Your failure to

give VBS instructions on how to respond to a tender offer, exchange offer, or other offer or transaction.

However, VBS may, at its discretion, and absent instructions from You, take action for You if Your Security or Other Property is about to expire worthless or be redeemed, exchanged, converted, tendered, or exercised in such a way that You would be left with significantly less value than if You had given VBS instructions to take action. VBS may charge You a brokerage commission and/or fee for any such action it takes on Your behalf, and You are responsible for paying the commission and/or fee.

You understand that, notwithstanding the above, You are solely responsible for investment decisions made in Your Account, including whether to buy or sell a particular Security. You are responsible for using multiple sources of information in making investment decisions for Your Account and should not rely solely on any information VBS may provide for any decisions You make or that are made on Your behalf. You agree and understand that any research, analysis, news, or other information VBS may make available to You in any format does not constitute a recommendation to You to buy, sell, or hold a particular Security. Further, You are responsible for monitoring profits and losses in Your Account and for modifying Your trading decisions accordingly.

You are responsible for obtaining Your own legal and tax advice as needed, and understanding that VBS does not, and will not, provide personalized legal or tax advice.

h. Account Security, Fraud, Identity Theft, and Reporting Inaccuracies and Discrepancies in Your Account

VBS may ask any caller, any online user, or any person who sends in written requests to provide certain information or to answer security questions to verify that he or she is authorized to act on an Account, and You agree (if You are the person calling, writing, or using Our online systems) to provide the information We request, including, for example, signature guaranteed, notarized, or otherwise authenticated instructions, or other supporting documentation. You understand that VBS is not obligated to approve or open any Account, take any trade, or effect any transaction, and that it may place trading, disbursement, or other restrictions on Your Account.

You are responsible for taking precautions to protect against fraud and identity theft, such as creating strong online credentials and taking other steps to ensure the confidentiality and security of Your Account number and other Account information. You are responsible for reviewing any statements, confirmations, or other Account information that VBS provides to You, and for promptly notifying Us if You become aware of any unauthorized use, theft, or loss of any of Your Account information (including, without limitation, Your Account number), or if You receive a confirmation for an order or transaction that You did

not place, or if You receive an inaccurate confirmation of an order, or its execution, that You did place. If You do not promptly, and in writing, report inaccuracies or discrepancies (including unauthorized trading) to VBS, You waive any objection to the trade, position, funds transfer, check, disbursement, fee, and/or other information set forth on the confirmation and/ or statement. Important note: While You may call VBS to discuss inaccuracies and discrepancies, You must confirm Your verbal communication in writing to fully protect Your rights, including any right You might have under the Securities Investor Protection Act (SIPA).

If You use a number or password to access Your Account, You agree to keep the access number or password private and secure.

You are responsible for any Account losses resulting from activity that VBS reasonably believes was authorized, as well as any losses associated with restrictions VBS may have placed on Your Account to protect against unauthorized activity.

i. Lost Securities

If You do not receive Securities that VBS forwarded to You, You should notify VBS immediately. If VBS receives Your notice within one hundred and twenty (120) days after the date the Securities were mailed to You (as reflected on Your statement), We will replace the Securities free of charge. If VBS does not receive notice within 120 days, it may charge You a fee to replace the Securities.

j. Liens and Levies

If a lien or levy on Your Account has been stayed or quashed, or the levying authority has otherwise released the levy or lien, it is Your responsibility to promptly provide VBS with appropriate documentation of the release. See **How to Contact VBS** for mailing instructions.

k. Complaints

If You have a complaint about the services VBS provides You, You should direct it to:

Complaints
Vanguard Brokerage Services
P.O. Box 982901
El Paso, TX 79998-2901

l. Closing an Account, Terminating Optional Features or Services

You may close Your Account, or terminate any optional features or services of the Account, by notifying VBS. The closure of Your Account or termination of a feature or service will be effective after VBS has received Your notice and had a reasonable period of time to act upon it. Even after You have notified Us that You wish to close Your Account or terminate an optional feature or service, You remain responsible for satisfying all obligations associated with the Account (for example, a Debit Balance) or with the feature or service. See also **Satisfying Legal Obligations by Releasing Account**

Information or Liquidating Securities and Other Property; Account Restrictions and Closing an Account.

8. VBS' Role

VBS will provide its clients with services relating to their Accounts, including, among others, order entry, online Account access, and tax and cost basis reporting. VBS is under no obligation to approve any Application, open any Account, take any trade, or effect any transaction.

VBS is required by federal law to obtain from each person who opens an Account certain personal information that will be used to verify that person's identity. If You do not provide this information, VBS will not be able to approve Your Application.

a. Identity and Credit Verification and Reporting

By submitting an Application to open a Vanguard Brokerage Account, You authorize VBS to verify the identity, creditworthiness, and other information for You, Your authorized Representative(s), and Your spouse, if You live in a Community Property state. To verify creditworthiness, We may, but are not obligated to, contact employers, obtain consumer and credit reports, and/or make other inquiries. VBS may refuse to open an Account or may decline to offer You certain features and services otherwise available for any lawful reason.

After Your Account has been opened, We may also obtain consumer and credit reports at any time for reasons including, but not limited to, the following:

- To collect a Debit Balance in Your Account;
- To investigate, detect, and help prevent fraud involving You or Your Account;
- To help VBS evaluate whether to grant, extend, or modify the terms and conditions of any credit You have applied for or received;
- If a deposit of Securities or Other Property to Your Account is returned.

We may report information about Your Account to credit bureaus, regulators, or law enforcement. If We report information to a credit bureau, items such as late payments, missed payments, or other defaults on Your Account may be reflected in Your credit report. On Your written request, VBS will inform You whether it has obtained credit reports and, if so, will provide You with the name and address of the reporting agency that furnished the reports.

If VBS approves Your Application and opens Your Account but later is not able to verify Your identity, it reserves the right to close Your Account or take other steps it deems reasonable.

VBS may require a minimum balance to open an Account. If VBS does require a minimum balance, You can submit the minimum amount needed by methods acceptable to VBS, including by sending a check, an EBT, a Federal funds wire, and/or a deposit of Marginable Securities.

b. Confirmations, Courtesy Trade Status Reports, Statements, and Other Account-Related Communications

VBS is required to send You written confirmation of the trades that are executed in Your Account. VBS may elect to send a monthly statement, in lieu of an immediate confirmation, for transactions executed pursuant to a periodic plan or an investment company plan, for transactions executed in shares of any open-end registered money market mutual fund, or for certain fractional share liquidations. VBS will send confirmations to You by USPS or e-delivery, depending on Your delivery elections. E-delivery is an efficient way to facilitate Account notifications.

VBS is not legally obligated to provide any trade status report other than a written confirmation, but it may choose to do so as a courtesy. VBS is not liable for any loss that You claim resulted from a delay or failure by VBS to issue a courtesy trade status report.

If, in any given month, there is Brokerage Activity in Your Account, VBS will send You a statement reflecting the activity at month-end. VBS will send You a statement after each calendar-year quarter-end, regardless of whether there was Brokerage Activity in Your Account. Information about all systematic or scheduled transactions, such as mutual fund dollar-cost-averaging purchases or reinvestment of dividends, will be included on Your statement for the periods during which the transactions occurred.

You are responsible for reviewing any statements, confirmations, or other Account information that We provide to You, and for promptly notifying Us if You become aware of any unauthorized use, theft, or loss of any of Your Account information, or if You receive a confirmation for an order or transaction that You did not place, or if You receive an inaccurate confirmation of an order, or its execution, that You did place. If You do not promptly, and in writing, report inaccuracies or discrepancies (including unauthorized trading) to VBS, You waive any objection to the trade, position, funds transfer, check, disbursement, fee, and/or other information set forth on the confirmation and/or statement. Important note: You may call VBS to discuss inaccuracies and discrepancies, but You must confirm Your verbal communication in writing to fully protect Your rights, including any right You might have under the Securities Investor Protection Act (SIPA).

VBS may combine communications sent by USPS—such as statements, confirmations, and other written communications related to Account activity for Your Accounts—in a manner that reduces the number of envelopes mailed to You. Combined communications for Accounts that have more than one Account Owner may be, and generally will be, addressed to the name listed first in Your Account registration. VBS also may choose to address combined communications to any one Account Owner, or to all Account Owners.

c. Satisfying Legal Obligations by Releasing Account Information or Liquidating Securities and Other Property; Account Restrictions and Closing an Account

VBS is responsible for complying with its legal obligations, including those obligations that involve or relate to a client or his, her, or its Account. This means that VBS may release information about You and Your Account and the activity in it pursuant to a properly authorized request, or liquidate Securities and Other Property in Your Account to satisfy a court order, garnishment, tax levy, or other legal obligation imposed by a court, government agency, or office or self-regulatory body that has jurisdiction over VBS or You. VBS may also impose trading or disbursement restrictions on Your Account if it is required to do so, or if VBS knows or suspects that a violation of any law may or could occur without the restriction. VBS will not be liable for trading losses, lost profits, tax obligations, or other damages You claim may or did result from any trading or disbursement restriction placed on Your Account. Nor will VBS be liable for any trading losses, lost profits, tax obligation, or other damages resulting from liquidations made in connection with a court order, tax levy, garnishment, or other legal proceeding. You agree We may debit Your Account a reasonable processing fee for each garnishment, subpoena, court order, tax levy, or other legal process on Your Account.

VBS is not required to take any trade. And it may place trading, disbursement, or other restrictions on Your Account. These restrictions could be due to, for example, Your failure to pay for trades in a timely manner or for trading or trade-related violations, or notice of a dispute between or among Account Owners.

VBS reserves the right to close Your Account, or terminate any Account feature or service, at any time, for any reason, and without prior notice. Reasons for Account closure may include, but are not limited to, a zero or low balance Account with no Account activity; use of inappropriate or abusive statements or actions; not meeting Our Digital Interaction Expectations as stated in this Agreement; and use of algorithmic or software programs to facilitate Account opening or trading. Such closure or termination may include order rejections and liquidation of Your Account. Any action that VBS takes may affect any or all Account Owners even if not all Account Owners are aware of, or involved with, the activity that prompts VBS to take action. If VBS closes Your Account or terminates any Account feature or service, You agree that VBS is authorized to liquidate Securities and Other Property in Your Account and provide You with the proceeds of such transactions, net of any outstanding debits or obligations. VBS is not responsible for any losses or lost profits resulting from such liquidation. You remain responsible for any outstanding charges, debits, or other transactions pending or settling in Your Account. We may delay a final disbursement, if any, until all obligations You owe Us are satisfied.

d. Investment Advice

VBS will not act as Your investment advisor, and VBS does not have any Discretionary Trading Authority over Your Account or any obligation to review or make recommendations for the investment of Securities and Other Property in Your Account. Further, VBS has no affirmative duty to monitor profits or losses in Your Account, or to modify Your trading decisions accordingly. Any research, analysis, news, or other information that may be made available to You is not a recommendation to You to buy, sell, or hold a particular Security or Other Property.

e. Tax Information, Including Withholding and Mandatory Cost Basis Reporting

VBS may, but is not required to, provide its clients with general tax information. The information VBS provides may not apply to Your specific circumstances and will not take into account Your comprehensive tax or estate planning situation. For information or advice specific to Your situation, You must consult with Your own tax or legal advisor.

VBS may be required to withhold taxes from certain distributions and may require that the amount of tax be available at the time the distribution is processed. It may also restrict the types of distributions available to certain clients; for example, clients who are nonresident aliens may not be permitted to take in-kind distributions.

VBS is required to report to You and the IRS cost basis and certain other information (jointly, "Cost Basis Information") for stock and investment company shares held in Your non-Retirement Accounts (the "Cost Basis Rules"). The Internal Revenue Service (IRS) requires VBS to report Cost Basis Information for: (i) stock acquired on or after January 1, 2011; (ii) shares of a Regulated Investment Company (RIC) or stock acquired through a Dividend Reinvestment Plan (DRP) if the acquisition was on or after January 1, 2012; (iii) options and certain less complex debt instruments (such as an obligation with a fixed yield and maturity) acquired on or after January 1, 2014; and (iv) most other debt obligations acquired on or after January 1, 2016.

If You sell or transfer stock or shares, debt instruments, or options (collectively, "Securities") for which VBS is required to report cost basis, You must specifically identify which Securities You wish to sell or transfer before the settlement date or You will be treated as having sold (if available) Securities for which VBS has not allocated basis (under the Cost Basis Rules or the VBS Cost Basis Accounting Service discussed below) and, if all available shares have allocated basis, from the earliest lot acquired ["First In, First Out" ("FIFO")]. Cost basis for RIC and DRP shares may be determined under the "average cost" method and may not be subject to the rule described in the preceding sentence if You have elected or been defaulted to "average cost." If You fail to make a specific identification for a sale or transfer of RIC shares and do not elect out of "average cost," VBS will use the average cost method.

Cost basis information reported to You and the IRS may differ in some cases from the information You are required to report on Your income tax return. You are responsible for correct tax reporting of Your Securities transactions.

VBS Cost Basis Accounting Service

While VBS may also track the cost basis of some or all of Securities or Other Property held in Your Account that are not subject to the Cost Basis Rules (for example, stock acquired before December 31, 2010, which You purchased through VBS or transferred in to VBS from another broker), it does so for information purposes only and does not report the information to the IRS.

The VBS Cost Basis Accounting Service is also provided for Retirement Accounts. For Retirement Accounts, FIFO is the default method for all Securities other than non-Vanguard mutual funds, for which the default method is average cost.

Access to Cost Basis Information

You must be a registered user of vanguard.com to view cost basis information and information provided under the VBS Cost Basis Accounting Service. You may have had to enter cost basis information for transferred Securities or Other Property.

f. Phone Access to VBS Associates; Recording Phone Calls and Monitoring Conversations

Although many account servicing needs can be accomplished online, VBS offers clients toll-free phone access to its associates that is generally available during regular business hours. However, at times when call volumes are high (such as during times of Market Volatility), You may have to wait to speak to an associate. At such times, VBS may route Your call to an automated answering system and/ or play recorded informational messages. During nonbusiness hours, or when VBS is upgrading or performing maintenance on Our systems, You may not be able to reach an associate. Note that most tasks, including but not limited to Account management (i.e., checking Account balances), transaction execution, and research can be accomplished using vanguard.com, Our mobile app, or Our automated answering system. On vanguard.com VBS provides FAQs, tutorials, and more to assist You.

VBS frequently receives client inquiries by phone that are not likely (in VBS' judgment) to require immediate market access ("Non-Trade Inquiries"). VBS reserves the right to limit the communication channels in which it resolves Non-Trade Inquiries and may choose to resolve such inquiries primarily or exclusively on its website or other available channels, as opposed to providing such information by phone. VBS may also implement call routing strategies to support resolution of clients' Non-Trade Inquiries based on external factors (such as during times of Market Volatility), or client-specific factors, such as client assets under management, their trading history, and/or the nature and volume of their calls to VBS.

VBS may, but is not required to, record any or all incoming or outgoing phone calls, or monitor conversations Our associates may have relating to Your Account. We may record or monitor calls to gauge the quality of the service We provide, and/or to verify Securities transaction information. Not all phone calls are recorded, and not all conversations are monitored, and We do not guarantee that We will make or retain recordings of any particular phone call. Any recording that VBS does make is VBS' property, and VBS will decide, at its sole discretion, whether to, at Your request, play back any recording.

g. Authorized Access to an Account

VBS generally will take trades and other instructions only from the Account Owner, and his, her, or its Representative. VBS may require You to provide certain information, answer security questions, or use a number or password to access Your Account. Additional information on authority is noted below.

Agents

VBS may accept trading instructions from a limited or a full agent but will accept instructions to change the beneficial Owner of the assets in an Account only from an agent who has been granted that authority (generally, only full agents have such authority). VBS will recognize an agent's authority if it has appropriate documentation in its files. You may go online at vanguard.com or contact Us for additional information on agents and for a description of appropriate documentation (for example, appropriate documentation could include a letter of Account approval).

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 in Our opinion conflicting instructions from, any of the multiple agents You may have appointed, or if VBS reasonably believes that the agent's authority has been revoked and that notice of the revocation is forthcoming.

Any notice VBS sends to an agent will be deemed to be notice to the Account Owner.

Fiduciary(ies)

If You, or a court, has appointed a fiduciary with authority to transact on Your Account, VBS may accept the fiduciary's instructions without responsibility for determining whether the fiduciary's action or inaction satisfies the standard of care applicable to such fiduciary's handling of the Account. If two or more fiduciaries have been authorized to make decisions on Your Account, VBS will accept and honor instructions received from one of the fiduciaries. Notwithstanding the foregoing, VBS may, at its discretion, require that instructions be signed or otherwise authorized by some or all of the fiduciaries named on Your Account before it takes any action requested by one or some of the fiduciaries. 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 in Our opinion conflicting instructions from, jointly serving fiduciaries.

Any notice We send to one fiduciary will be deemed to be notice to all fiduciaries.

Joint Account Owners

VBS may accept trading instructions from any one Account Owner of a jointly owned Account or his, her, or its Representative. We may, however, require all Account Owners to authorize, in writing or otherwise, certain transactions.

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 in Our opinion conflicting instructions from, joint Account Owners.

Any notice VBS sends to one Account Owner will be deemed to be notice to all Account Owners.

Plan Sponsors and Vanguard Fiduciary Trust Company

If Your Account is held in a Vanguard Brokerage Option of an employer-sponsored Plan, VBS may accept transaction and other instructions from the Plan Sponsor, named fiduciary or investment manager of the Plan, or from the Plan trustee.

h. Market Volatility

During periods of Market Volatility, there may be disruptions, suspensions, or halts in trading in individual Securities, or at some or all exchanges or other venues that trade Securities. As a result, there may be delays in executing Your order, and there may be a significant difference in the quote You receive at the time You place Your trade and the execution price You receive. You may also receive partial executions of Your order at different prices. During periods of Market Volatility and at all other times, VBS may, in its sole discretion and without prior notice, limit the types of orders it accepts, or prevent Securities from being traded through VBS' services. If You attempt to place a trade during periods of Market Volatility, then You accept the risks that may result, and waive any claim to losses, including, without limitation, lost profits or damages resulting from the inability to place orders for impacted Securities.

9. Contractual Terms

This section outlines the contractual terms of this Agreement. If You do not understand them, please contact Us or seek advice from Your attorney. This Agreement and its terms and conditions are binding, without limitation, on You and Your heirs, executors, administrators, successors, and assignees.

a. Governing Law

Disputes arising out of or in connection with Your Account or this Agreement will be decided and enforced in accordance with the laws of the State of New York (regardless of the choice of law rules thereof).

b. Assignment

VBS may assign its rights and obligations under this Agreement to its parent or to any of its subsidiaries, affiliates, or successors without notice to You. VBS may assign its rights and obligations under this Agreement to any other entity (one that is not a parent, subsidiary, affiliate, or successor) after giving You thirty (30) days' written notice. You may not assign Your rights and obligations under the Agreement without first obtaining VBS' written consent.

c. Liability

VBS is not responsible for determining whether a person is eligible to serve, or capable of serving, as Your Representative, or for transactions effected in an Account after a Representative's authority has been revoked but before VBS was provided written notice of the revocation and an opportunity to react to the notice. You agree to hold VBS, and any of its parents, subsidiaries, or affiliates, and any of their officers, directors, employees, and agents harmless from any liability, claim, or expense (including attorneys' fees) for the actions or inactions of Your Representative. Neither VBS nor any of its parents, affiliates, or subsidiaries, or any of their respective employees, officers, or directors (collectively, "VBS entities"), will be liable to You or to any third parties for any expenses, losses, damages, liabilities, demands, charges, and claims of any kind or nature whatsoever (including without limitation any legal expenses and costs or expenses relating to investigating or defending any demands, charges, and claims) (collectively, "Losses") by or with respect to the Account. The VBS entities will not be liable for any Losses or damages caused directly or indirectly by: government restrictions; exchange or market rulings; Market Volatility or disruptions in order trading on any exchange or market; suspension of trading; war; strikes; severe weather; natural disasters; other acts of God; failure of computer or other electronic or mechanical equipment

or communication lines; acts of terrorism; failure of third parties to follow instructions; or other conditions and occurrences beyond the VBS entities' control.

d. Severability

If any provision or condition of this Agreement shall be held to be invalid or unenforceable by any court or regulatory or self-regulatory agency or body, such invalidity or unenforceability shall attach only to such provision or condition. The validity of the remaining provisions and conditions shall not be affected thereby, and this Agreement shall be valid and enforceable as if any such invalid or unenforceable provision or condition were not contained herein.

e. Entire Agreement, Amendment, and Waiver

This Agreement incorporates into it any terms and conditions contained on the Brokerage Account Application as well as any terms and conditions contained on the Account statements and confirmations We send to You. This Agreement, with incorporations and as amended from time to time, contains the entire understanding between You and VBS concerning Your Account and Our provision of services relating to that Account.

Upon notice to You, VBS may modify or rescind existing provisions or add new provisions to the Agreement, and You agree to abide by the Agreement, as amended from time to time. VBS may waive its rights under this Agreement. Any waivers by VBS under this Agreement must be expressed in writing and signed by VBS. A waiver will apply only to the particular circumstance giving rise to the waiver and will not be considered a continuing waiver in other similar circumstances unless VBS states, in writing, that its intention is to make the waiver a continuing waiver. VBS' failure to insist on strict compliance with the Agreement is not a waiver of any of its rights under the Agreement.

f. Arbitration

This Agreement contains a predispute arbitration clause. Under this clause, which You agree to when signing Your Account Application, the parties to this Agreement agree as follows:

- All parties to this Agreement are giving up the right to sue each other in court, including the right to a trial by jury, 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 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.

You agree to settle by arbitration any controversy between or among You and VBS arising out of or relating to VBS' business or this Agreement. Such arbitration will be conducted by, and in accordance with, the securities arbitration rules and regulations then in effect of FINRA or any national securities exchange that provides a forum for the arbitration of disputes, provided that VBS is a member of such national securities exchange at the time the arbitration is initiated. Your demand for arbitration shall be made within the time prescribed by those rules and will be subject to the applicable state or federal statutes of limitations as though filed in court. The award of the arbitrator will be final and binding, and judgment on the award may be entered in any court having jurisdiction. No person shall 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 customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this Agreement except to the extent stated herein.

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Vanguard Brokerage Services

P.O. Box 982901
El Paso, TX 79998-2901

Connect with Vanguard® > vanguard.com

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VBSAACP 072024

Vanguard Brokerage Account Agreement

Effective November 2023

Vanguard Brokerage Services

Vanguard Brokerage Account Agreement

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1. About the Vanguard Brokerage Account

a. Introduction

Vanguard Brokerage Services® (VBS®) is a division of Vanguard Marketing Corporation (VMC) and was created to offer retail brokerage services to clients. VMC, a broker-dealer, is a member firm of the Financial Industry Regulatory Authority (FINRA). VBS offers its clients a brokerage Account, the Vanguard Brokerage Account, in which clients may hold, as well as buy and sell, mutual funds, ETFs, stocks, bonds, options (collectively, "Securities"), and Other Property. This document, the Vanguard Brokerage Account Agreement ("the Agreement" or "this Agreement"), contains terms and conditions, disclosures, and other important information about the Vanguard Brokerage Account and a client's relationship with VBS. This Agreement also explains some of the features and services available for Vanguard Brokerage Accounts.

When You submit an Application to open a Vanguard Brokerage Account (hereafter referred to as "an Account," "the Account," "Your brokerage Account," or "Your Account"), You agree that Your Account, if opened, and any product or service relating to it, and Your relationship with VBS, will be governed by the terms, conditions, disclosures, and other information in this Agreement and in any service- or feature-specific form or brochure. In addition, You agree to be bound by policies that can be found on vanguard.com or in other documents We provide to You, such as Vanguard Brokerage Services commission and fee schedules, VBS' Privacy Policy, Frequent-Trading Policy, Market-Timing Policy, After-Hours Trading Policy, Dividend Reinvestment Program Policy, etc. VBS may amend this Agreement, change or alter its policies, or separately add, remove, or change any of the features and services offered on an Account. This Agreement supersedes any previous Agreement You, any of Your joint Account Owners, or any of Your Representatives (including fiduciaries appointed for You or Your estate) may have entered into with VMC or VBS relating to Your Account or Your relationship with VBS. Therefore, You should read this and other documents We provide to You carefully and retain them for future reference. If You do not understand any of the terms, conditions, or disclosures in this Agreement, please contact Us or seek the advice of Your attorney.

b. Digital Interaction Expectations

VBS proactively evolves Our offerings and technologies to enable Us to better deliver on Our mission to help clients achieve investment success; core to achieving that is using more modern digital platforms. VBS is committed to helping You navigate toward simpler, more effective digital channels and practices that have proven to be quicker, safer, and more cost-effective. We strongly urge all VBS Account holders to web register and use digital channels like vanguard.com and Our mobile application to manage Your Account.

To assist with Your understanding of VBS' digital-first service model, VBS has put together the following list

of digital interaction expectations of which, by applying for an Account, You acknowledge Your understanding:

1. VBS expects You primarily use digital channels for interactions and communication regarding Your Account, inclusive of e-delivery. VBS provides You with various options to do so, including but not limited to vanguard.com, Our mobile app, instant chat, secure message center, and other electronic means to facilitate efficient and convenient interactions.
2. VBS expects You to provide Your mobile phone number and email address, so that We can contact You via text messaging and other digital means (e.g., secure messages, e-delivery) to service Your Account.
3. VBS expects that You access and use vanguard.com, Our mobile app, or Our automated answering system to perform certain tasks, including but not limited to Account management (e.g., checking Account balances), transaction execution (e.g., placing trades), and research (e.g., requesting quotes). On vanguard.com VBS provides FAQs, tutorials, and more to assist You in this process.
4. You understand that excessive reliance on Our phone associates for tasks that can be accomplished online may negatively impact Your customer service experience including but not limited to delayed response times, additional fees, and possible Account termination.
5. As set forth in Section 8(f) of this Agreement, VBS reserves the right to resolve Non-Trade Inquiries exclusively on its website or other available channels as opposed to providing such information by phone. Furthermore, at its discretion, consistent with Section 8(c) of this Agreement, VBS reserves the right to close Your Account, or terminate any feature or service at any time, for any reason, inclusive of not meeting Our Digital Interaction Expectations.

2. How to Contact VBS

Online: vanguard.com

Many account interactions and communications can be accomplished efficiently using digital channels.

By mail: P.O. Box 982901
El Paso, TX 79998-2901

By phone: 800-992-8327

If You have a complaint about the services VBS provides You, You should direct it to:

Complaints
Vanguard Brokerage Services
P.O. Box 982901
El Paso, TX 79998-2901

3. FINRA's BrokerCheck

FINRA sponsors a program, called BrokerCheck, designed to give investors convenient access to information about

the professional background, business practices, and conduct of FINRA member firms and brokers formerly or currently registered with FINRA or a national securities exchange. The BrokerCheck hotline number is 800-289-9999. You may obtain a brochure that describes BrokerCheck by calling the hotline number or at finra.org.

4. Account Protection

a. SIPC Coverage

Securities held in Your Account are held in custody by VBS, a division of VMC. VMC is 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 upon request or at sipc.org.

VBS maintains additional coverage through an insurer that supplements the SIPC coverage available to Securities. Account protection, either under SIPC or the additional insurance maintained by VBS, does not cover fluctuations in the market value of the investments in Your Account. Any positions You may have in Securities held away from VBS are not in VBS' custody or control and are not covered by SIPC or VBS' additional insurance.

b. Eligibility for FDIC Insurance

Clients with eligible Accounts may choose to enroll in Vanguard's Bank Sweep Product which automatically sweeps Free Credit Balances in an Account into one or more participating program banks (each a "Program Bank"), where they earn interest, and are eligible for insurance provided by the Federal Deposit Insurance Corporation ("FDIC").

FDIC insurance provides protection against the loss of Your Sweep Deposits, up to allowable limits, in the event the Program Bank fails. FDIC deposit insurance is backed by the full faith and credit of the United States. Specifically, FDIC deposit insurance coverage is available for deposits subject to the Bank Sweep Product up to the FDIC standard maximum deposit insurance amount ("SMDIA"), which is currently \$250,000 per insurable category of account ownership at that Program Bank, when aggregated with all other deposits held by You at such bank and in the same insurable category of account ownership. Balances subject to the Bank Sweep Product will be eligible for FDIC insurance once they are transferred to and are held at the Program Banks as Sweep Deposits. If you have questions about basic FDIC insurance coverage, you may wish to seek advice from Your own attorney, including concerning FDIC insurance coverage of deposits held in more than one insurable capacity. You may also obtain information by contacting the FDIC, Deposit Insurance Outreach, Division of Depositor and Consumer Protection, by letter (550 17th Street, N.W., Washington, D.C. 20429), by phone (877-275-3342 or 800-925-4618 (TDD)), by visiting the FDIC Website at fdic.gov/deposit/index.html, or by e-mail using the FDIC's On-line Customer Assistance Form available on its website. Disclosures regarding FDIC

insurance coverage are summary only, do not state all of the requirements and conditions of FDIC insurance, and are subject to, and qualified in their entirety by, regulations and guidance of the FDIC.

5. Definitions

We define certain terms throughout this Agreement. Others are defined below:

- **Account:** The Vanguard Brokerage Account, including a Retirement Account, governed by this Agreement. The Account is opened on Your completion, and Our approval, of the appropriate Application.
- **Account Owner:** Each person who has an ownership interest in the Account. If the Account holds community property, an Owner's spouse, whether listed in the registration or not, may be considered an Account Owner.
- **Application or Brokerage Account Application:** The form (paper or electronic) used to open an Account.
- **Bank Sweep Product:** One of the options of VBS' Sweep Program. An FDIC-insured product that may be made available to invest Free Credit Balances and to pay for transactions and receive the proceeds from trades and other transactions in Your Account.
- **Brokerage Activity:** Trades, dividends, interest, and corporate actions activity that occurs in Your Account. Dividend reinvestment in a money market fund may not be considered Brokerage Activity.
- **Control or Restricted Security:** Securities defined in Rule 144 under the Securities Act of 1933 (the '33 Act) as "restricted securities" or Securities issued by an issuer of which You are an "affiliate" (as that term is defined by Rule 144 of the '33 Act) or Securities that are being sold in reliance on Rule 701 or 145(d) under the '33 Act or Securities of which You and the issuer, or its underwriter, have entered into an agreement restricting the transferability of such Securities.
- **Debit Balance:** The amount of money You owe to VBS.
- **Discretionary Trading Authority:** Authority given by the Owner(s) of an Account to a third party (for example, a registered representative or an investment advisor), which permits the third party to decide which Securities to buy or sell in an Account and to make other transactions.
- **EBT:** Electronic Bank Transfer is an electronic movement of money or information using the Automated Clearing House (ACH) Network.
- **FDIC:** The Federal Deposit Insurance Corporation.
- **FINRA:** The Financial Industry Regulatory Authority.
Free Credit Balance: The uninvested cash in Your Account, less what is needed to pay for unsettled purchase transactions, charges to Your Account, or credit balances designated as collateral. Free Credit Balances are payable on demand.
- **Fund Your Account:** Incoming money intended to be credited to an Account. If there is no Debit Balance, or if the outstanding Debit Balance is less than the incoming money, the funding (or the funding less the debit amount) will Sweep under the Sweep Program.

- **Good Delivery:** The delivery to VBS of freely transferable Securities (that is, properly registered, endorsed, and fully negotiable).
- **Marginable Securities:** Any registered Security, Over-the-Counter (OTC) margin stock, OTC margin bond, or National Market System (NMS) Security.
- **Market Data:** The last sale transaction data, bid and ask quotations, news reports, analysts' reports or research, or other information relating to Securities and the Securities markets.
- **Market Volatility:** Trading conditions characterized by heavy trading, illiquidity, fast markets, unpredictable or steep price fluctuations, or other volatile market conditions that may result in trading disruptions, suspensions, halts or other restrictions impacting either individual Securities or the market as a whole.
- **Other Property:** An investment in Your Account that is not commonly known as a Security, such as a Certificate of Deposit.
- **Representative(s):** A person who has been properly appointed as a full or limited agent for a principal, or a fiduciary of, for example, an incompetent person, a trust, a minor, or an estate, or an officer or authorized signatory for an organization.
- **Retirement Account:** A tax-advantaged Account, either an individually owned Account, such as an Individual Retirement Account, or IRA, or one held as part of an employer-sponsored plan, intended to be used primarily as a savings vehicle to provide income in retirement. A Retirement Account can be opened using the appropriate retirement Application and agreeing to the terms in this Agreement and any other agreement that is specific to the type of Account opened, such as the Vanguard Custodial Account Agreement and the Disclosure Statement applicable to an IRA. A Retirement Account may be part of a retirement plan.
- **Security or Securities:** Any note, stock, bond, option, mutual fund, ETF, or other instrument of investment commonly known as a Security.
- **Settlement Fund:** Together, the money market fund and/or Bank Sweep Product options under VBS' Sweep Program to or from which Free Credits are swept.
- **Sweep:** A transaction that moves cash under the Sweep Program.
- **Sweep Program:** The service VBS may provide to its clients to move Free Credit Balances into or out of money market funds and/or Bank Sweep Products.
- **USPS:** The United States Postal Service.
- **Vanguard Fund:** Any mutual fund in the Vanguard family of mutual funds.
- **We/Us/Our/VBS:** Vanguard Brokerage Services, a division of Vanguard Marketing Corporation, and its affiliates.
- **You/Your/Yourself:** An Account Owner and his, her, or its properly authorized Representative.

6. General Terms of the Vanguard Brokerage Account

To open an Account, You must complete and submit the appropriate Application, and VBS must approve Your Application. You do not have an Account until VBS processes and approves Your Application. Once the Account is opened, You are responsible for complying with the terms of this Agreement.

This section of the Agreement explains VBS' Sweep Program, how to enter orders, how to pay for orders, and other information about Your Account and the Securities and Other Property held in it.

a. Sweep Program

VBS has a Sweep Program and may sweep Free Credit Balances into or out of money market funds and/ or Bank Sweep Products. Unless stated otherwise, VBS' default Sweep Program moves free credits in Your Settlement Fund into a money market fund. Clients with eligible Accounts may also choose to enroll in Vanguard's Bank Sweep Product which automatically sweeps Free Credit Balances in Your Settlement Fund into one or more Program Banks. Balances swept to a money market fund may be covered by SIPC, whereas balances under the Bank Sweep are eligible for FDIC insurance. See Account Protection for more information. Only cash can move into and out of the Sweep Program; if VBS receives directions to move something other than cash into the Sweep Program, including a direction to transfer shares in kind to or from Your Settlement Fund, VBS will treat the directions as an instruction to transfer cash.

There is no guarantee that cash will Sweep into or out of the Sweep Program. VBS's Sweep Program may decline to accept a purchase for any reason, including, for example, if the size of the purchase may negatively impact a Sweep Program option's operation or performance. If the Sweep Program declines Your purchase, the Sweep will not be processed and no Sweep Program option will be credited. VBS will attempt to notify You if the Sweep Program declines a purchase and to obtain alternative investment instructions. If VBS does not receive alternative investment instructions, or if it cannot process Your alternative investment instructions, the amount of Your attempted purchase will result in a Free Credit Balance in Your Account (which is another sweep option). VBS will not be liable for lost profits, or other losses and damages that allegedly result from a failure or delay to Sweep.

You agree that VBS may, on prior written notice to You, limit, change, or add options to its Sweep Program or end a Sweep Program. If a sweep option under the Sweep Program is temporarily made unavailable (because, for example, a money market fund closes or a fund determines that a customer is not an eligible investor or a Program Bank refuses deposits), then VBS may sweep to another available option under the Sweep Program or it may opt to reflect cash as a Free Credit Balance in Your Account. If the current money

market fund is eliminated or restricted as an option in the Sweep Program, VBS may seek a new money market mutual fund, considering such factors as yield, fees, investment objectives, risks, and current market conditions, or VBS may make available or use another available option or combination of options under the Sweep Program, such as an FDIC-insured Bank Sweep Product or Free Credit Balances in Your Account. After notice, whenever feasible, VBS may change Your investment made through the Sweep Program from one Sweep Program option to another. Pending payments and proceeds and payments and proceeds for trades placed after a Sweep Program option is eliminated, assuming the Sweep Program has not ended, will Sweep into or out of the alternative Sweep Program option and/or be reflected as a Free Credit Balance in Your Account. See **Corporate Actions** for additional information on actions a fund or its transfer agent may take, and **Payment, Equity Deposit, and Settlement** for information on paying for trades.

Cash not swept under the Sweep Program will be reflected as a free credit or a Free Credit Balance in Your Account. VBS expects to receive compensation based on the amount of Free Credit Balances in VBS Accounts.

b. Trading or Disbursement Restrictions

VBS is not required to accept any trade, or take any funding, and it may place trading, funding, disbursement, or other restrictions on an Account or on one or more Securities. These restrictions could relate to or result from many factors, including, without limitation, court orders, tax levies, or garnishments; Market Volatility; requests from, or sanctions or similar restrictions related to the purchase, sale, or transfer of any Securities imposed by a government agency or law enforcement authority; a failure to pay for trades in a timely manner or for trading or trade-related violations; notice of a dispute between Account Owners; if VBS believes that doing so will prevent fraud, financial exploitation or abuse, or to protect vulnerable investors; or VBS' knowledge or suspicion that a violation of any law may or could occur without the restriction. You agree to abide by any such restriction and not to initiate trades or transactions that would violate the restriction. VBS may also eliminate or restrict Your ability to purchase particular Securities or Other Property. VBS also has no obligation to facilitate the sale or transfer of any Securities if it concludes that taking such action(s) is likely to violate applicable laws, regulations, orders, or similar restrictions.

c. Requests for Transactions and Order Entry Services

VBS will accept online or verbal orders from You. You must place all orders electronically at vanguard.com or through VBS' mobile app; or verbally with one of VBS' brokerage associates. VBS will not accept written orders for the purchase or sale of Securities or Other Property. Online trading is the most efficient way to place trades.

Important information about written orders.

If VBS receives a written instruction accompanied by funding (for example, a check), VBS may treat the instruction as a request to Fund Your Account, with the proceeds (after satisfying outstanding debits) to Sweep.

VBS may accept wires to Fund Your Account, with the proceeds to Sweep. Generally, however, VBS will not accept wires for the purchase of a Security or Other Property. If You send VBS a wire with instructions to purchase a Security or Other Property, including a Vanguard Fund, VBS may, at its discretion, treat the wire as a request to Fund Your Account with the proceeds (after satisfying outstanding debits) to Sweep.

Orders for the purchase or sale of Vanguard Funds may require notification to and/or approval from the Vanguard Fund's manager. Please contact VBS before attempting to place a large transaction.

If a check, EBT, or other item You send to pay for a purchase or to Fund Your Account is returned to Us unpaid, recalled, or otherwise not honored, We may debit Your Account and/or charge Your Account a fee.

VBS may restrict Your ability to withdraw funds recently credited to Your Account.

Additional information for clients who transferred their Vanguard Funds into their Accounts:

Instructions to purchase received by The Vanguard Group, Inc., after You have transferred Vanguard Fund holdings to Your Account. You agree that VBS, at its sole discretion, may treat any instruction received by The Vanguard Group, Inc., for the purchase of a Vanguard Fund as an instruction to VBS to Fund Your Account, with the proceeds to Sweep. VBS' decision to treat any such instruction received by The Vanguard Group, Inc., as an instruction to VBS does not mean that VBS has an ongoing obligation to treat all such instructions received by The Vanguard Group, Inc., as instructions to VBS.

You agree to instruct Your bank to pay on checks made payable to "Vanguard," or any reasonable variation of "Vanguard," when presented to Your bank for payment by either The Vanguard Group, Inc.'s, or VBS' bank. If Your bank dishonors the check for any reason, You agree to pay for the transaction in accordance with the **Payment, Equity Deposit, and Settlement** information noted below.

You agree that The Vanguard Group, Inc., or VBS, or any affiliate of any of them, will not be responsible for any costs or fees incurred by You as a result of Vanguard's or VBS' bank's presentment of a check as described above.

Checkwriting drafts received by The Vanguard Group, Inc., and presented for payment within the 45 days following the transfer of the position to Your Account.

If You have transferred Your Vanguard Fund(s) into Your Account, *immediately upon the transfer of Your Vanguard Funds into Your Account You agree to cease using*

the checkwriting drafts (CWRs) issued on Your Vanguard Funds and to destroy any unused checks. If You have written CWRs on a Vanguard Fund You transferred to Your Account, and those CWRs remain outstanding and unpaid at the time of the transfer, You agree that VBS may, in its sole discretion, elect to treat any CWR received by The Vanguard Group, Inc., or its bank in the 45 calendar days following the date You transferred Your Vanguard Funds into Your Account as an instruction to sell sufficient shares of the same Vanguard Fund that the CWR was originally written against to cover the CWR. If at the time the CWR is presented for payment, the balance in the Vanguard Fund that the CWR was originally written against is not sufficient to cover the entire CWR, You agree that VBS may, at its sole discretion, elect to treat the CWR as an instruction to redeem shares from the Vanguard Fund that the CWR was written against and cover the remainder of the CWR by free credit, if any, and/or a redemption of shares from Your Sweep Program or any money market position in Your Account. You agree that You are responsible for any tax consequences associated with the sale of shares to cover the CWR.

If You do not have sufficient shares in the Vanguard Fund the CWR was originally written against, Your Sweep Program and/or any money market position in Your Account to cover the check in its entirety, VBS will not accept the instruction and will direct The Vanguard Group, Inc., to instruct its bank to dishonor (that is, "bounce") the check. You agree that The Vanguard Group, Inc., VBS, or any affiliate of either, will not be responsible for any costs or fees You may incur as a result of a dishonored CWR.

VBS may accept instructions from The Vanguard Group, Inc., to reverse and/or reprocess the transfer of Your Vanguard Funds to Your Account to correct errors made prior to the transfer.

d. Changing or Canceling Orders

It may not be possible for You to cancel an order once You have placed it. If You attempt to cancel or change an order, Your attempt will be treated as a request to cancel or change. VBS will process Your request on a best-efforts basis, but if VBS cannot cancel or change Your order, You will be bound to the terms of the original order You placed.

For VBS' protection, it may, without prior notice, decline, cancel, modify, or reverse Your orders or instructions.

e. Payment, Equity Deposit, and Settlement

You agree to pay for all authorized transactions made in Your Account, including any commissions or fees that VBS might charge. When You purchase Securities and Other Property on a cash basis, You agree to pay for the Securities and Other Property by settlement date.

VBS may use available funds in Your Account or in any account with its affiliates to settle a transaction. Note: For Retirement Accounts, VBS will only use available

funds in Your Retirement Account, or in an account with its affiliates that is part of the same Retirement Account or plan, to settle a transaction.

VBS may require an equity deposit or a full payment before it accepts Your order. When You place an order to sell a Security long, You must own the Security at the time You place the order. You agree to make Good Delivery of the Security You are selling by settlement date. Proceeds of any sale will not be paid until VBS has received Good Delivery of the Security and settlement is complete.

You agree to promptly satisfy any Debit Balance or other indebtedness or outstanding obligation related to Your Account, including, but not limited to, any such indebtedness that results from instructions provided to VBS by You or an Investment Advisor authorized to make transactions in Your Account. We may elect at any time, with or without notice, to make any Debit Balance or other indebtedness or outstanding obligation related to Your Account immediately due and payable.

VBS generally will not accept a tender of Control or Restricted Securities as collateral for an obligation You owe VBS. VBS may, however, in its sole discretion, approve such a tender. VBS' approval of such tenders must be in writing and be given in advance.

If You incur a debt to VBS or any of our affiliates as a result of activity in Your non-Retirement Account, and You do not promptly pay VBS the amount due, You agree that VBS may, at its discretion and without prior demand or notice, sell Securities in the non-Retirement Account that incurred the debt to satisfy the debt, or if there are not enough assets in that non-Retirement Account to satisfy the full amount of the debt, to sell or otherwise liquidate any or all Securities or Other Property in any other non-Retirement Account with VBS or with any of its affiliates in which You have an interest, regardless of whether there are other Account Owners on the other Account(s), and use the sale proceeds to cover the debt. You understand that the other Account(s) may be charged a commission as a result of any such sale.

VBS may also transfer Securities and Other Property from any non-Retirement Account or in any non-Retirement Accounts with its affiliates in which You have an interest to any other non-Retirement Account in which You have an interest, regardless of whether there are other Account Owners on the other Account(s), in order to satisfy deficiencies in any such Account or if VBS thinks Your obligations in any such non-Retirement Account are not adequately secured.

Important Note for Retirement Accounts: If You incur a debt to VBS or any of our affiliates as a result of activity in Your Retirement Account, You must promptly pay VBS the amount due. If You do not, You agree that VBS may sell Securities in the Retirement Account that incurred the debt to satisfy the debt. If You do not have sufficient assets in the Retirement Account held

with VBS to satisfy the amount You owe, You agree that VBS may require You to sell Securities that You hold in other Accounts (and You agree to execute all documents and/or give oral instructions as necessary to effect the sale), whether held with VBS or with its affiliates, that are part of the same retirement plan and use the proceeds to cover the debt. You understand that Your Account may be charged a commission as a result of any such sale.

To satisfy a Debit Balance in a Retirement Account with a sale of Securities or Other Property, VBS may only sell Securities that are in the Retirement Account that incurred the debit or in an Account held with an affiliate that is part of the same retirement plan. If VBS sells Securities or Other Property to satisfy a Debit Balance, Your Account and any other account held with an affiliate that are part of the same retirement plan are responsible for all costs and commissions related to such a sale.

You understand that VBS may apply any dividends, capital gains payments, interest payments, or other funds coming into an Account, such as incoming funds by check, EBT, wire, or Direct Deposit, or funds that would otherwise be invested through the Vanguard Brokerage Dividend Reinvestment Program, to cover fees or other indebtedness to VBS. Debit Balances in Your Account will be charged interest in accordance with VBS' established rules and policies.

f. Security for Indebtedness for Non-Retirement Accounts

As security for the repayment of all present or future indebtedness owed to VBS by each Account Owner, each Account Owner grants to VBS a first, perfected, and prior lien on, a continuing security interest in, and right of set-off with respect to, all Securities and Other Property that is, now or in the future, held, carried, or maintained for any purpose in or through VBS, and, to the extent of such Account Owner's interest in or through, any present or future account with VBS or its affiliates in which the Account Owner has an interest. You agree to indemnify VBS for any loss or expense that VBS may incur in enforcing its lien or any other remedies available to it, including the reasonable cost of collection. This paragraph does not apply to assets in a Retirement Account.

g. Checks, EBTs, or Other Items Returned Unpaid, Recalled, or Dishonored

If a check, EBT, or other item You remit to VBS is returned unpaid, recalled, or otherwise not honored, VBS may charge a fee to Your Account. Also, for VBS' protection, VBS may restrict Your ability to withdraw funds recently added to Your Account by check or EBT. VBS may restrict Your ability to use recently added funds to settle a Securities transaction, and/or decline to accept orders until recently added funds are collected or otherwise validated.

h. Foreign Securities Trading, Settlement, and Custody

VBS may act as agent for foreign Security orders traded in local markets. VBS' policy is to settle foreign Security trades in U.S. dollars. Foreign account activity, including, but not limited to, trades, transfers, dividends, and other corporate actions, may be automatically converted to or from U.S. dollars. VBS has an established partnership with JPMorgan (JPM) to facilitate the clearance and settlement of foreign Security transactions. Your foreign Securities may be custodied through JPM or any subcustodian located in a particular local market and will be held at JPM in an account established for the exclusive benefit of customers of VBS.

i. Securities Held in Street Name

Securities and Other Property that are held for Your Account and that are in "street name," or are being held by a Securities depository in VBS' name, may be commingled with the same Securities being held for other clients of financial organizations and for VBS' own clients. VBS is responsible for ensuring that its records reflect Your ownership of these Securities and Other Property. For Accounts other than a Retirement Account, You have the right at any time to request delivery to You of any such Securities or Other Property that are fully paid for or are in excess of margin requirements.

j. Corporate Actions

Mutual Fund Mergers, Share Conversions, or Other Fund Actions

A mutual fund, or its transfer agent, may merge fund shares held in Your Account to another fund pursuant to a fund merger, convert shares from one class to another, or take other actions as described in each fund's prospectus. VBS will accept the direction of a fund or its transfer agent to merge, convert Your shares, or take other action.

Interest, Dividend, and Other Payments

If You are entitled to receive dividend, interest, or other payments on the Securities held in Your Account, VBS may, in its sole discretion, choose to pay such amounts to You upon its receipt of the payment from the issuer or intermediary(ies).

Optional Dividends

When a company offers its shareholders a choice to receive a dividend either in cash or stock, VBS will use the dividend reinvestment election(s) on Your Account as the basis for choosing cash or stock. Accounts that have elected to have dividends reinvested (either at the Account level or for the specific Security) will be credited with stock, while Accounts that have elected to receive dividends in cash (either at the Account level or for the specific Security) will receive cash.

Callable Securities

Many bonds allow the issuer to redeem or call an issue prior to maturity date. Certain preferred Securities can also be called by the issuer. Some calls are "partial" calls, meaning that only some shares are called. If a Security that You and other clients of VBS hold is partially called, VBS will determine, through a random selection procedure, which Securities will be submitted for redemption without regard to unsettled sales. If the Securities held in Your Account are selected and redeemed, Your Account will be credited with the redemption proceeds.

Should You wish to opt Your non-Retirement Account(s) out of this random selection process, You must instruct VBS to deliver Your Securities to You. We will deliver the Securities provided that they are unencumbered and they have not already been called by the issuer. The probability of one of Your Securities being called is the same whether they are held by You or by VBS for You. You cannot opt out of the random selection process for assets held in a Retirement Account because We cannot deliver assets held in a Retirement Account to You.

To review VBS' procedures for the client allocation of Securities selected for redemption in the event of a partial redemption, visit vanguard.com. To request a free, printed copy of VBS' allocation procedures, contact VBS

Nontransferable Securities

If You hold nontransferable Securities in Your Account, VBS may remove the Securities from Your Account without prior notice. Securities become nontransferable when there are no transfer agent services available for the Securities. If nontransferable Securities are removed from Your Account, You should consult with Your tax advisor about any potential tax implications. The position removal will be documented on Your subsequent account statement.

Credits to Your Account

VBS credits to Your Account funds belonging to You such as dividends, interest, redemption proceeds, or the proceeds of corporate reorganizations on the day such funds are received by VBS. An issuer or an intermediary may earn interest on funds held in its possession. If an issuer or intermediary passes such interest along to VBS, VBS will keep the payment.

VBS can provide further information on when Your Account will be credited with funds due to You, when those funds are available to You, and/or when You begin earning interest on those funds.

k. Disclosure of Account Information

We may disclose Your name and/or information about Your Account or Your transactions consistent with Our Privacy Policy and pursuant to Rule 14b-1 under the Securities Exchange Act of 1934 to companies whose Securities You hold unless We receive Your written objection. Different rules apply for European Union domiciled Securities, and You may not be able to opt out

of Our disclosure of shareholder identifying information to issuers of such Securities. For additional information about Our Privacy Policy, visit Our Privacy Center at investor.vanguard.com/privacy-center/home-page. In addition, if You request a large transaction in a Vanguard Fund, including in Your Settlement Fund (if it uses the money market fund Sweep Program option), VBS may disclose information about You and/or Your Vanguard Fund holdings to The Vanguard Group, Inc.

l. Delivery of Required Information, Other Documents, and Notices About Your Account

You may consent to receive Confirmations, Statements, and other Account information electronically. E-delivery is an efficient way to facilitate Account communications. If You do not consent to e-delivery, VBS or its mailing vendor will use the USPS to deliver the information to You. However, to receive certain VBS products, services, or offers, including, for example, online trading, VBS may require that You consent to electronic delivery of certain documents.

VBS will direct communications to the mailing address, email address, or phone number We have for You in Our files (that is, the contact information You provided on Your Account Application or later updated). Any communication (required or otherwise) that VBS directs to such a mailing address, email address, or phone number will be considered delivered to You, whether or not the communication is actually received.

m. Provision of Market Data

We may provide You with Market Data, and may charge You a fee for doing so. We obtain Market Data from Securities exchanges, markets, and from parties that transmit Market Data ("Market Data Provider" or collectively, "Market Data Providers"). All Market Data are protected by copyright laws. We provide Market Data for Your personal noncommercial use; You may not sell, market, or distribute Market Data unless You have entered into a written agreement with the appropriate Market Data Provider that allows You to sell, market, or distribute the data.

We receive the Market Data from industry sources that are believed to be reliable. However, neither VBS nor the Market Data Providers can guarantee the accuracy, completeness, timeliness, suitability for use, or correct sequencing of the Market Data. Neither VBS nor the Market Data Providers will be liable to You for interruptions in the availability of Market Data or Your access to Market Data.

The Market Data are provided "as is" and on an "as available" basis. There is no warranty of any kind, express or implied, regarding the Market Data. We are not responsible for, and You agree not to hold VBS liable for, lost profits, trading losses, or any other damages resulting from Market Data or Your use of the data. In any case, Our liability arising from any legal claim (whether in contract, tort, or otherwise) relating to the Market Data will not exceed the amount You

have paid for use of the services or Market Data. You agree that We may correct any execution reported to You that was based on inaccurate Market Data provided to VBS by an exchange, market center, or other provider.

n. Extended-Hours Trading

VBS offers online access to participate in extended-hours trading sessions. If You participate in extended-hours trading, You agree to terms and conditions that are disclosed on the website and that You understand the risks of trading in an extended-hours session.

o. Best Execution and Payment for Order-Flow Practices

VBS routes equity and options orders to various market participants. VBS uses a top-down approach in selecting the market participants with which We will establish a relationship. This approach includes a review of system availability, quality of service, and financial and regulatory standing. The designated market participants to which orders are routed are selected based on the consistent high quality of their executions in one or more market segments. In analyzing quality of executions, VBS considers factors such as liquidity enhancement, price improvement, execution speed, and overall effective price compared with the national best bid and offer (NBBO). VBS regularly conducts analysis and reviews reports for quality of execution purposes.

VBS is required to make publicly available quarterly reports that disclose the venues to which orders were routed as well as the nature of Our routing relationships, including any payment for order-flow arrangements. You can access this information by visiting vanguard.com.

In addition to the publicly available reports, VBS, upon written request, will provide information related to Your orders that were routed for execution in the past six months. This information will include the venue to which Your order(s) was (were) routed, whether the order(s) was (were) directed or nondirected, and the time of the transactions.

VBS does not receive compensation for directing order flow in equity Securities. Similarly, VBS does not receive compensation for directing options Securities to Our execution partners, but reserves the right to do so in the future.

Access to Tradeweb Markets LLC

VBS provides availability to the Alternative Trading Systems operated by Tradeweb Markets LLC ("Tradeweb") and to other content provided by Tradeweb. Tradeweb provides access to certain municipal bond information from DPC DATA. Tradeweb and DPC DATA are third parties and are not affiliated with VBS. While VBS provides access to Tradeweb's Alternative Trading Systems, VBS has no control over actions taken by Tradeweb. All content, with the exception of new issue municipal content, is provided by Tradeweb and DPC DATA; VBS is not responsible for

the accuracy of content provided by Tradeweb or DPC DATA. New issue municipal content on the Tradeweb pages is provided by VBS. All offerings are subject to market conditions, prior sale, and/or Tradeweb's clearly erroneous policy.

p. Certificates of Deposit (CDs)

All brokered CDs will fluctuate in value between purchase date and maturity date. CDs may be sold on the secondary market prior to maturity, subject to market conditions, which may be limited. Any CD sold prior to maturity may be subject to a substantial gain or loss. VBS does not make a market in brokered CDs. The original face amount of the purchase is not guaranteed if the position is sold prior to maturity. CDs are subject to availability. All CDs are federally insured up to \$250,000 per bank. In determining the applicable insurance limits, the FDIC aggregates accounts held at the issuer, including those held through different broker-dealers or other intermediaries. For additional details regarding coverage eligibility and insurance limits for other types of accounts, visit fdic.gov. The minimum purchase for new issues is \$10,000. Yields are calculated as simple interest, not compounded. Brokered CDs do not need to be held to maturity, charge no penalties for redemption, and have limited liquidity in a secondary market. If a CD has a step rate, the interest rate of the CD may be higher or lower than prevailing market rates. Step-rate CDs are subject to secondary market risk and often will include a call provision by the issuer that would subject the investor to reinvestment risk. The initial rate of a step-rate CD cannot be used to calculate the yield to maturity. If a CD has a call provision, the issuer has sole discretion whether to call the CD. If an issuer calls a CD, there is a risk to the investor that the investor will be forced to reinvest at a less favorable interest rate. VBS makes no judgment as to the creditworthiness of the issuing institution and does not recommend or endorse CDs in any way. For additional information with respect to CDs, visit vanguard.com. Additional information is available at fdic.gov.

q. Fractional Shares in Stocks and ETFs

As a VBS client, You may acquire a fractional share interest in a single stock or ETF (a "Fractional Share") in several ways. For example, You may receive a Fractional Share: (a) as a result of the reinvestment of a dividend if You participate in VBS' dividend reinvestment program; (b) as a divided interest in whole shares resulting from a life event, such as divorce or inheritance; (c) as a result of placing a Dollar-Based Trade (as defined in the Dollar-Based Trading Terms of Use); or (d) as a result of the conversion of conventional mutual fund shares issued by a Vanguard Fund to ETF Shares of equivalent value of the same Vanguard Fund (refer to Vanguard ETF prospectuses for further information regarding the conversion privilege). Fractional Shares present unique risks and have certain limitations and may have different rights from a whole share of the same stock or ETF. **IMPORTANT: The Fractional Share rights and limitations described**

below apply to individual stocks and ETFs, but do not apply to mutual funds. For further information on rights and restrictions related to mutual funds, please consult the mutual fund prospectus and statement of additional information.

- i. *Eligibility for Dividends and Dividend Reinvestment.* You will receive dividends on Fractional Shares unless the prorated amount of the dividend is less than one half of one cent (\$.005). Fractional Shares are eligible for automatic reinvestment of cash dividends received, at Your election, subject to the terms of VBS' dividend reinvestment program. If You participate in dividend reinvestment and Your dividend for a particular stock or ETF would equate to less than .0005 shares, then You will receive Your dividend in cash.
- ii. *Corporate Actions.* The eligibility of Fractional Shares to participate in corporate actions may be different than whole shares. For mandatory reorganizations, such as mergers and acquisitions, stock splits, or spin-offs, typically VBS will distribute Your interest in proportion to Your ownership interest, inclusive of any Fractional Shares. However, only whole shares, and not Fractional Shares, are eligible to participate in voluntary corporate actions, including tender offers and certain rights offerings. If You are to receive Fractional Shares as the result of a stock split or other corporate action for a stock or ETF held in Your Account, VBS, in its sole discretion, may either sell the shares on the open market or to the issuer or transfer agent. You are entitled to receive Your pro rata portion of the proceeds of any such sale. If sold on the open market, Fractional Shares may receive a price that differs from that offered to certain registered owners by the issuer or transfer agent.
- iii. *Voting Rights.* VBS works with a vendor that aggregates any proxy votes for Fractional Shares of VBS' clients with all votes reported to the issuer or issuer's designated vote tabulator. VBS' vendor will report such proxy votes on Fractional Shares, but the issuer or tabulator may not fully count such Fractional Share votes.
- iv. *Stock Certificates.* Stock certificates cannot be issued for Fractional Shares.
- v. *Transferability.* Fractional Shares are not currently transferrable to another brokerage firm. If, for example, You own 10.5 shares of an individual stock and You transfer the Securities in Your VBS Account to another firm, 10 shares will be transferred. Your 0.5 Fractional Share will be acquired and liquidated by VBS, and will receive the closing price from the trading day immediately preceding the transfer of Your whole share(s). VBS will distribute these proceeds in Your Account and will provide confirmation of the Fractional Share liquidation on Your periodic statement. Since Your Fractional Shares cannot be transferred, Your overall SIPC coverage may be affected.

vi. *Auto-Liquidation of Certain Fractional Shares.* Unless you have established a position in an Eligible Security (as defined in the VBS Dollar Trading Terms of Use) via Dollar Trading, You generally may not hold only a Fractional Share without at least one corresponding whole share. VBS will automatically sell ("Auto-Liquidate") Your Fractional Share under the following two scenarios:

1. "Sell-All" Trades. If You own whole shares and a Fractional Share in a stock or ETF, VBS will Auto-Liquidate Your Fractional Share holding when You place a share-based order to sell Your entire whole share position. For example, if You own 10.2 shares in a stock or ETF and sold all 10 shares, VBS would Auto-Liquidate the remaining .2 Fractional Share. That Fractional Share will receive the same price as the corresponding whole shares, and will be prorated to reflect your Fractional Share ownership in that stock or ETF. VBS will place the proceeds of that sale into Your Account.
2. "Orphaned" Fractional Shares. As a result of certain actions, Your Account may own a Fractional Share without a corresponding whole share position in a stock or ETF. For example, as described above, Fractional Shares cannot be transferred to another firm. Therefore, if You own whole shares and a corresponding Fractional Share in a stock or ETF and transfer those securities to another firm, VBS will transfer the whole shares, and then Auto-Liquidate any remaining Fractional Share. Under these circumstances, You will receive the previous day's closing price for any "Orphaned" Fractional Share Auto-Liquidated by VBS, prorated to reflect Your Fractional Share interest.

vii. *Auto-Liquidation and Dollar-Based Trading.* If you establish a new position in an Eligible Security through a Dollar-Based Trade, VBS will turn off the Auto-Liquidate feature for that Eligible Security in the account in which You placed that trade. Further information on Auto-Liquidation and its impacts on Fractional Shares acquired by Dollar Trades is available in VBS' Dollar-Based Trading Terms of Use.

viii. *Capacity.* VBS trades the Fractional Share component of any stock or ETF trade You place (or placed on Your Behalf) on a principal basis.

7. Your Role

As an Account Owner, or his, her, or its properly authorized Representative, You have certain responsibilities. For example, You are responsible for providing accurate and complete information on the Application and for submitting any additional information documents that VBS requires at the time Your Account is opened or at any time afterward. Once Your Account is opened, You are responsible for fulfilling the obligations arising under this Agreement or relating to the Account. If there is more than one Account Owner, each Account Owner is

jointly and severally liable for obligations arising under the Agreement or relating to the Account. You should also refer to the confirmations and statements We send to You, the current VBS commission and fee schedules, as well as any brochures and forms that describe Account services and features for additional information about Your responsibilities and obligations.

a. Account Information

If any of the information You provided on Your Application changes, You should notify VBS immediately. You should notify Us, for example, if You, or a household member, becomes a control person or an affiliate of a public company (such as, but not limited to, a member of a board of directors, a 10% shareholder, or a policymaking executive), or if You or Your spouse becomes an employee of FINRA or becomes associated with a member of a stock exchange, a FINRA member firm, or a municipal securities dealer.

You should also notify Us immediately if Account authority changes. For example, if You revoke a third party's authority or a Representative's authority to act or inquire on Your Account, or for jointly owned Accounts, a joint Account Owner dies, You should notify Us.

If You provide us with a mobile phone number, You agree and consent that VBS and its affiliates may contact You at that mobile number with telephone calls that may use an autodialer and by text messages for the purposes of servicing of Your account(s) or investigating and preventing fraud. We will not use texts or autodialed calls to contact You for marketing purposes unless we receive Your prior express written consent. You do not have to agree to receive autodialed calls or texts to your mobile phone number in order to use the products and services offered by Vanguard. You may unsubscribe from receiving text messages by texting STOP, CANCEL, UNSUBSCRIBE, QUIT or END to 82393. Additionally, you can contact VBS and an associate can unsubscribe you. Standard telephone minute and text charges may apply. Vanguard's Activity and Appointment Alerts Terms and Conditions of Use are available at vanguard.com.

Please pay close attention to the mailing address, email, phone number, and banking information on Your Account. You are responsible for keeping this information up to date.

Delivery of Distributions/Withdrawals: If You request a distribution or withdrawal from Your Account, but We are unable to deliver the funds as instructed or We have questions on the instructions, VBS will attempt to contact You for corrected or revised delivery instructions or for additional information. If You do not provide VBS with corrected or revised delivery instructions or the requested information promptly, VBS may return the funds to Your Account with the proceeds to Sweep. For Retirement Accounts: If funds are returned to Your Account for one of the reasons

noted above, Your Account records (including the tax records) will reflect that the distribution did not occur.

Dormant Accounts, Uncashed Checks: You should periodically log on to Your Account at vanguard.com or through Our mobile app or contact VBS about Your Account, even if You do not wish to make a transaction. If Your Account has had no activity in it for a period of time or You have not contacted Us about the Account, VBS may be required to transfer it to a state under the state's unclaimed property laws. Also, VBS may be required to turn over uncashed checks as unclaimed property; You should promptly cash or deposit any check VBS sends to You and instruct third parties to whom You direct VBS to send checks to do the same.

b. Paying for Transactions and Account Fees, and Return of Overpayments or Uncollected Fees

You are responsible for paying for all authorized transactions made in Your Account, including paying the commissions, processing, or other fees associated with the transactions. You are also responsible for paying any service or other fees imposed on Your Account. Our commissions and fees are detailed in the VBS commission and fee schedules, which are incorporated by reference into this Agreement. Certain clients, individually or as members of a category of clients, may pay different commissions and fees, or none at all, based on assets or activities in their Accounts. VBS reserves the right to change or waive commissions and fees at its discretion. If VBS is required to do so, it will notify You of the changes made to its commissions and fees. Your continued use of Your Account or the applicable service following such a change means You have consented to the change.

If You do not pay for Your transactions or the fees associated with Your Account, then VBS may, on its own behalf and on behalf of its affiliates, cancel Your transactions, liquidate assets, restrict Your Account, or take other appropriate action in seeking payment for the transactions and/or fees. You will be responsible for satisfying all debits and for paying all costs, commissions, and/or losses arising from any actions VBS takes to liquidate or close transactions in Your Account, or from Your failure to make timely Good Delivery of Securities and Other Property. See also **Payment, Equity Deposit, and Settlement** for additional information.

And, if You know or suspect that You have received an overpayment of funds or Securities or Other Property, or if You know or suspect that VBS failed to collect a fee You incurred, You are responsible for notifying VBS as soon as You learn of the overpayment or uncollected fee. You agree not to remove the overpayment or the uncollected fee from the Account. If You do remove the overpayment or uncollected fee, You are responsible for promptly returning the full overpayment or fee to VBS. If You fail to do so, You will be liable to VBS not only for the amount of the overpayment or uncollected fee, but also for all interest, costs, and expenses associated with its recovery.

c. Authority to Transact on an Account

Generally, an adult Account Owner, and/or his, her, or its properly authorized Representative, has authority to transact on his, her, or its individually owned Account. If an Account has more than one Owner, each Account Owner has authority, acting individually and without notice to any other Account Owner, to deal with VBS as fully and completely as if the Account Owner was the sole Account Owner. Notwithstanding the preceding, VBS may, from time to time or for certain transactions, require the consent of all Account Owners.

If Your Representative's authority is revoked, You are responsible for providing VBS with notice of the revocation in a form and manner acceptable to VBS. You remain responsible for transactions effected in Your Account after a Representative's authority has been revoked but before VBS was provided notice and had an opportunity to react to the notice of revocation. See also the **Authorized Access to an Account** and **Liability** sections of this Agreement for additional information.

d. Compliance With Policies, Rules, and Laws

You, and the transactions You make or attempt in Your Account, must comply with the policies that can be found on vanguard.com or in other documents We provide to You, such as VBS' Privacy Policy, Frequent-Trading Policy, Market-Timing Policy, After-Hours Trading Policy, Dividend Reinvestment Program Policy, etc., as well as Our house trading rules and policies, as these rules and policies may be amended from time to time. In addition, You and the transactions You make or attempt in Your Account must comply with all applicable rules, regulations, customs, and usage of any exchange, market, or clearinghouse where the transactions are executed, as well as with any applicable laws, rules, regulations, or guidance of any international, federal, state, or self-regulatory agency or instrumentality. If VBS places a restriction on Your Account, You agree to abide by the restriction and to not initiate trades or transactions that would violate the restriction.

e. Control or Restricted Securities

You agree to tell Us whether You hold any Control or Restricted Securities in Your Account, and their statuses, and whether there are any other contractual lockup, blackout, or additional restrictions on Your ability to sell such Securities. You also must furnish promptly whatever information and documents VBS might need to comply with its regulatory obligations relating to the Control or Restricted Security. Furnishing the information that VBS might need on Control or Restricted Securities is not an order to sell those Control or Restricted Securities; Orders to sell must be placed by available order entry means, preferably online, meaning through vanguard.com or Our mobile app. You agree that You are responsible for all costs, including the cost to repurchase Securities if You sell Securities that are later found to be restricted or nontransferable. You further acknowledge that

proceeds from the sale of Control or Restricted Securities will not Sweep or be made available to You for withdrawal or trading purposes until VBS receives what it, in its sole opinion, considers to be adequate verification that Your Control or Restricted Securities have been transferred or cleared for transfer.

Because Control or Restricted Securities transactions require special handling by both VBS and third parties, processing transactions in those Securities could take several weeks or longer, during which time the price of the Control or Restricted Securities may fluctuate. You understand that You, and not VBS, bear the risk of such market fluctuations, as well as for delays in the sale (or settlement of such sale) of Your Control or Restricted Securities that result from the failure of issuer's counsel to issue or approve any necessary legal opinion, the failure of the transfer agent to process Your shares, or any other third party's action or failure to act.

You cannot tender Control or Restricted Securities as collateral for an obligation You owe VBS unless You have obtained, in writing, VBS' preapproval of such a tender.

f. Identifying as a Large Trader

If Your transactions in NMS Securities equal or exceed two million shares or \$20 million a day, or 20 million shares or \$200 million a month, You are a Large Trader and You must identify Yourself as such with the Securities and Exchange Commission (SEC). These thresholds apply not only to Accounts that You own but also to Accounts over which You have investment discretion, such as agent authority. If You meet the definition of a Large Trader, You must file Form 13H with the SEC (available at sec.gov) to obtain from the SEC a unique ID number. You must provide this unique ID to all broker-dealers with which You trade, including VBS, so that the broker-dealers can provide accurate trading records to an appropriate regulator upon the regulator's request.

g. Understanding Terms of Securities and Other Property, and for Trading Decisions

You are responsible for knowing the rights and terms of Your Securities and Other Property, and for taking action to realize the value of Your Securities and Other Property. You agree that VBS is not liable for any decrease in the value of Your Securities and Other Property or other losses resulting from Your failure to give VBS instructions on how to respond to a tender offer, exchange offer, or other offer or transaction.

However, VBS may, at its discretion, and absent instructions from You, take action for You if Your Security or Other Property is about to expire worthless or be redeemed, exchanged, converted, tendered, or exercised in such a way that You would be left with significantly less value than if You had given VBS instructions to take action. VBS will charge You a brokerage commission and/or fee for any such action it takes on Your behalf, and You are responsible for paying the commission and/or fee.

You understand that, notwithstanding the above, You are solely responsible for investment decisions made in Your Account, including whether to buy or sell a particular Security. You are responsible for using multiple sources of information in making investment decisions for Your Account and should not rely solely on any information VBS may provide for any decisions You make or that are made on Your behalf. You agree and understand that any research, analysis, news, or other information VBS may make available to You in any format does not constitute a recommendation to You to buy, sell, or hold a particular Security. Further, You are responsible for monitoring profits and losses in Your Account and for modifying Your trading decisions accordingly.

You are responsible for obtaining Your own legal and tax advice as needed, and understanding that VBS does not, and will not, provide personalized legal or tax advice.

h. Account Security, Fraud, Identity Theft, and Reporting Inaccuracies and Discrepancies in Your Account

VBS may ask any caller, any online user, or any person who sends in written requests to provide certain information or to answer security questions to verify that he or she is authorized to act on an Account, and You agree (if You are the person calling, writing, or using Our online systems) to provide the information We request, including, for example, signature guaranteed, notarized, or otherwise authenticated instructions, or other supporting documentation. You understand that VBS is not obligated to approve or open any Account, take any trade, or effect any transaction, and that it may place trading, disbursement, or other restrictions on Your Account.

You are responsible for taking precautions to protect against fraud and identity theft, such as creating strong online credentials and taking other steps to ensure the confidentiality and security of Your Account number and other Account information. You are responsible for reviewing any statements, confirmations, or other Account information that VBS provides to You, and for promptly notifying Us if You become aware of any unauthorized use, theft, or loss of any of Your Account information (including, without limitation, Your Account number), or if You receive a confirmation for an order or transaction that You did not place, or if You receive an inaccurate confirmation of an order, or its execution, that You did place. If You do not promptly, and in writing, report inaccuracies or discrepancies (including unauthorized trading) to VBS, You waive any objection to the trade, position, funds transfer, check, disbursement, fee, and/or other information set forth on the confirmation and/or statement. Important note: While You may call VBS to discuss inaccuracies and discrepancies, You must confirm Your verbal communication in writing to fully protect Your rights, including any right You might have under the Securities Investor Protection Act (SIPA).

If You use a number or password to access Your Account, You agree to keep the access number or password private and secure.

You are responsible for any Account losses resulting from activity that VBS reasonably believes was authorized, as well as any losses associated with restrictions VBS may have placed on Your Account to protect against unauthorized activity.

i. Lost Securities

If You do not receive Securities that VBS forwarded to You, You should notify VBS immediately. If VBS receives Your notice within one hundred and twenty (120) days after the date the Securities were mailed to You (as reflected on Your statement), We will replace the Securities free of charge. If VBS does not receive notice within 120 days, it may charge You a fee to replace the Securities.

j. Liens and Levies

If a lien or levy on Your Account has been stayed or quashed, or the levying authority has otherwise released the levy or lien, it is Your responsibility to promptly provide VBS with appropriate documentation of the release. See How to Contact VBS for mailing instructions.

k. Complaints

If You have a complaint about the services VBS provides You, You should direct it to:

Complaints
Vanguard Brokerage Services
P.O. Box 982901
El Paso, TX 79998-2901

l. Closing an Account, Terminating Optional Features or Services

You may close Your Account, or terminate any optional features or services of the Account, by notifying VBS. The closure of Your Account or termination of a feature or service will be effective after VBS has received Your notice and had a reasonable period of time to act upon it. Even after You have notified Us that You wish to close Your Account or terminate an optional feature or service, You remain responsible for satisfying all obligations associated with the Account (for example, a Debit Balance) or with the feature or service. See also **Satisfying Legal Obligations by Releasing Account Information or Liquidating Securities and Other Property; Account Restrictions and Closing an Account.**

8. VBS' Role

VBS will provide its clients with services relating to their Accounts, including, among others, order entry, online Account access, and tax and cost basis reporting. VBS is under no obligation to approve any Application, open any Account, take any trade, or effect any transaction.

VBS is required by federal law to obtain from each person who opens an Account certain personal information that

will be used to verify that person's identity. If You do not provide this information, VBS will not be able to approve Your Application.

a. Identity and Credit Verification and Reporting

By submitting an Application to open a Vanguard Brokerage Account, You authorize VBS to verify the identity, creditworthiness, and other information for You, Your authorized Representative(s), and Your spouse, if You live in a Community Property state. To verify creditworthiness, We may, but are not obligated to, contact employers, obtain consumer and credit reports, and/or make other inquiries. VBS may refuse to open an Account or may decline to offer You certain features and services otherwise available for any lawful reason.

After Your Account has been opened, We may also obtain consumer and credit reports at any time for reasons including, but not limited to, the following:

- To collect a Debit Balance in Your Account;
- To investigate, detect, and help prevent fraud involving You or Your Account;
- To help VBS evaluate whether to grant, extend, or modify the terms and conditions of any credit You have applied for or received;
- If a deposit of Securities or Other Property to Your Account is returned.

We may report information about Your Account to credit bureaus, regulators, or law enforcement. If We report information to a credit bureau, items such as late payments, missed payments, or other defaults on Your Account may be reflected in Your credit report. On Your written request, VBS will inform You whether it has obtained credit reports and, if so, will provide You with the name and address of the reporting agency that furnished the reports.

If VBS approves Your Application and opens Your Account but later is not able to verify Your identity, it reserves the right to close Your Account or take other steps it deems reasonable.

VBS may require a minimum balance to open an Account. If VBS does require a minimum balance, You can submit the minimum amount needed by methods acceptable to VBS, including by sending a check, an EBT, a Federal funds wire, and/or a deposit of Marginable Securities.

b. Confirmations, Courtesy Trade Status Reports, Statements, and Other Account-Related Communications

VBS is required to send You written confirmation of the trades that are executed in Your Account. VBS may elect to send a monthly statement, in lieu of an immediate confirmation, for transactions executed pursuant to a periodic plan or an investment company plan, for transactions executed in shares of any open-end registered money market mutual fund, or for certain fractional share liquidations. VBS will send

confirmations to You by USPS or e-delivery, depending on Your delivery elections. E-delivery is an efficient way to facilitate Account notifications.

VBS is not legally obligated to provide any trade status report other than a written confirmation, but it may choose to do so as a courtesy. VBS is not liable for any loss that You claim resulted from a delay or failure by VBS to issue a courtesy trade status report.

If, in any given month, there is Brokerage Activity in Your Account, VBS will send You a statement reflecting the activity at month-end. VBS will send You a statement after each calendar-year quarter-end, regardless of whether there was Brokerage Activity in Your Account. Information about all systematic or scheduled transactions, such as mutual fund dollar-cost-averaging purchases or reinvestment of dividends, will be included on Your statement for the periods during which the transactions occurred.

You are responsible for reviewing any statements, confirmations, or other Account information that We provide to You, and for promptly notifying Us if You become aware of any unauthorized use, theft, or loss of any of Your Account information, or if You receive a confirmation for an order or transaction that You did not place, or if You receive an inaccurate confirmation of an order, or its execution, that You did place. If You do not promptly, and in writing, report inaccuracies or discrepancies (including unauthorized trading) to VBS, You waive any objection to the trade, position, funds transfer, check, disbursement, fee, and/or other information set forth on the confirmation and/or statement. Important note: You may call VBS to discuss inaccuracies and discrepancies, but You must confirm Your verbal communication in writing to fully protect Your rights, including any right You might have under the Securities Investor Protection Act (SIPA).

VBS may combine communications sent by USPS—such as statements, confirmations, and other written communications related to Account activity for Your Accounts—in a manner that reduces the number of envelopes mailed to You. Combined communications for Accounts that have more than one Account Owner may be, and generally will be, addressed to the name listed first in Your Account registration. VBS also may choose to address combined communications to any one Account Owner, or to all Account Owners.

c. Satisfying Legal Obligations by Releasing Account Information or Liquidating Securities and Other Property; Account Restrictions and Closing an Account

VBS is responsible for complying with its legal obligations, including those obligations that involve or relate to a client or his, her, or its Account. This means that VBS may release information about You and Your Account and the activity in it pursuant to a properly authorized request, or liquidate Securities and Other Property in Your Account to satisfy a court order, garnishment, tax levy, or other legal obligation

imposed by a court, government agency, or office or self-regulatory body that has jurisdiction over VBS or You. VBS may also impose trading or disbursement restrictions on Your Account if it is required to do so, or if VBS knows or suspects that a violation of any law may or could occur without the restriction. VBS will not be liable for trading losses, lost profits, tax obligations, or other damages You claim may or did result from any trading or disbursement restriction placed on Your Account. Nor will VBS be liable for any trading losses, lost profits, tax obligation, or other damages resulting from liquidations made in connection with a court order, tax levy, garnishment, or other legal proceeding. You agree We may debit Your Account a reasonable processing fee for each garnishment, subpoena, court order, tax levy, or other legal process on Your Account.

VBS is not required to take any trade. And it may place trading, disbursement, or other restrictions on Your Account. These restrictions could be due to, for example, Your failure to pay for trades in a timely manner or for trading or trade-related violations, or notice of a dispute between or among Account Owners.

VBS reserves the right to close Your Account, or terminate any Account feature or service at any time, for any reason. Any action that VBS takes may affect any or all Account Owners even if not all Account Owners are aware of, or involved with, the activity that prompts VBS to take action. If VBS closes Your Account for any reason, we will notify You and provide You with a deadline to transfer any Securities in Your Account(s) to another firm. If You do not take action to transfer or liquidate Your Securities at VBS within the timeframe specified by VBS, then You authorize VBS to liquidate such Securities and provide you with the proceeds of such sales, net of any outstanding debits or obligations. VBS is not responsible for any losses or lost profits resulting from such liquidation. You remain responsible for any outstanding charges, debits, or other transactions pending or settling in Your Account. We may delay a final disbursement, if any, until all obligations You owe Us are satisfied.

d. Investment Advice

VBS will not act as Your investment advisor, and VBS does not have any Discretionary Trading Authority over Your Account or any obligation to review or make recommendations for the investment of Securities and Other Property in Your Account. Further, VBS has no affirmative duty to monitor profits or losses in Your Account, or to modify Your trading decisions accordingly. Any research, analysis, news, or other information that may be made available to You is not a recommendation to You to buy, sell, or hold a particular Security or Other Property.

e. Tax Information, Including Withholding and Mandatory Cost Basis Reporting

VBS may, but is not required to, provide its clients with general tax information. The information VBS provides may not apply to Your specific circumstances and will not take into account Your comprehensive tax or estate

planning situation. For information or advice specific to Your situation, You must consult with Your own tax or legal advisor.

VBS may be required to withhold taxes from certain distributions and may require that the amount of tax be available at the time the distribution is processed. It may also restrict the types of distributions available to certain clients; for example, clients who are nonresident aliens may not be permitted to take in-kind distributions.

VBS is required to report to You and the IRS cost basis and certain other information (jointly, "Cost Basis Information") for stock and investment company shares held in Your non-Retirement Accounts (the "Cost Basis Rules"). The Internal Revenue Service (IRS) requires VBS to report Cost Basis Information for: (i) stock acquired on or after January 1, 2011; (ii) shares of a Regulated Investment Company (RIC) or stock acquired through a Dividend Reinvestment Plan (DRP) if the acquisition was on or after January 1, 2012; (iii) options and certain less complex debt instruments (such as an obligation with a fixed yield and maturity) acquired on or after January 1, 2014; and (iv) most other debt obligations acquired on or after January 1, 2016.

If You sell or transfer stock or shares, debt instruments, or options (collectively, "Securities") for which VBS is required to report cost basis, You must specifically identify which Securities You wish to sell or transfer before the settlement date or You will be treated as having sold (if available) Securities for which VBS has not allocated basis (under the Cost Basis Rules or the VBS Cost Basis Accounting Service discussed below) and, if all available shares have allocated basis, from the earliest lot acquired ["First In, First Out" ("FIFO")]. Cost basis for RIC and DRP shares may be determined under the "average cost" method and may not be subject to the rule described in the preceding sentence if You have elected or been defaulted to "average cost." If You fail to make a specific identification for a sale or transfer of RIC shares and do not elect out of "average cost," VBS will use the average cost method.

Cost basis information reported to You and the IRS may differ in some cases from the information You are required to report on Your income tax return. You are responsible for correct tax reporting of Your Securities transactions.

VBS Cost Basis Accounting Service

While VBS may also track the cost basis of some or all of Securities or Other Property held in Your Account that are not subject to the Cost Basis Rules (for example, stock acquired before December 31, 2010, which You purchased through VBS or transferred in to VBS from another broker), it does so for information purposes only and does not report the information to the IRS.

The VBS Cost Basis Accounting Service is also provided for Retirement Accounts. For Retirement Accounts, FIFO is the default method for all Securities other than non-Vanguard mutual funds, for which the default method is average cost.

Access to Cost Basis Information

You must be a registered user of vanguard.com to view cost basis information and information provided under the VBS Cost Basis Accounting Service. You may have had to enter cost basis information for transferred Securities or Other Property.

f. Phone Access to VBS Associates; Recording Phone Calls and Monitoring Conversations

Although many account servicing needs can be accomplished online, VBS offers clients toll-free phone access to its associates that is generally available during regular business hours. However, at times when call volumes are high (such as during times of Market Volatility), You may have to wait to speak to an associate. At such times, VBS may route Your call to an automated answering system and/ or play recorded informational messages. During nonbusiness hours, or when VBS is upgrading or performing maintenance on Our systems, You may not be able to reach an associate. Note that most tasks, including but not limited to Account management (i.e., checking Account balances), transaction execution, and research can be accomplished using vanguard.com, Our mobile app, or Our automated answering system. On vanguard.com VBS provides FAQs, tutorials, and more to assist You.

VBS frequently receives client inquiries by phone that are not likely (in VBS' judgment) to require immediate market access ("Non-Trade Inquiries"). VBS reserves the right to limit the communication channels in which it resolves Non-Trade Inquiries and may choose to resolve such inquiries primarily or exclusively on its website or other available channels, as opposed to providing such information by phone. VBS may also implement call routing strategies to support resolution of clients' Non-Trade Inquiries based on external factors (such as during times of Market Volatility), or client-specific factors, such as client assets under management, their trading history, and/or the nature and volume of their calls to VBS.

VBS may, but is not required to, record any or all incoming or outgoing phone calls, or monitor conversations Our associates may have relating to Your Account. We may record or monitor calls to gauge the quality of the service We provide, and/or to verify Securities transaction information. Not all phone calls are recorded, and not all conversations are monitored, and We do not guarantee that We will make or retain recordings of any particular phone call. Any recording that VBS does make is VBS' property, and VBS will decide, at its sole discretion, whether to, at Your request, play back any recording.

g. Authorized Access to an Account

VBS generally will take trades and other instructions only from the Account Owner, and his, her, or its Representative. VBS may require You to provide certain information, answer security questions, or use a number or password to access Your Account. Additional information on authority is noted below.

Agents

VBS may accept trading instructions from a limited or a full agent but will accept instructions to change the beneficial Owner of the assets in an Account only from an agent who has been granted that authority (generally, only full agents have such authority). VBS will recognize an agent's authority if it has appropriate documentation in its files. You may go online at vanguard.com or contact Us for additional information on agents and for a description of appropriate documentation (for example, appropriate documentation could include a letter of Account approval).

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 in Our opinion, conflicting instructions from, any of the multiple agents You may have appointed, or if VBS reasonably believes that the agent's authority has been revoked and that notice of the revocation is forthcoming.

Any notice VBS sends to an agent will be deemed to be notice to the Account Owner.

Fiduciary(ies)

If You, or a court, has appointed a fiduciary with authority to transact on Your Account, VBS may accept the fiduciary's instructions without responsibility for determining whether the fiduciary's action or inaction satisfies the standard of care applicable to such fiduciary's handling of the Account. If two or more fiduciaries have been authorized to make decisions on Your Account, VBS will accept and honor instructions received from one of the fiduciaries. Notwithstanding the foregoing, VBS may, at its discretion, require that instructions be signed or otherwise authorized by some or all of the fiduciaries named on Your Account before it takes any action requested by one or some of the fiduciaries. 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 in Our opinion conflicting instructions from, jointly serving fiduciaries.

Any notice We send to one fiduciary will be deemed to be notice to all fiduciaries.

Joint Account Owners

VBS may accept trading instructions from any one Account Owner of a jointly owned Account or his, her, or its Representative. We may, however, require all Account Owners to authorize, in writing or otherwise, certain transactions.

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 in Our opinion conflicting instructions from, joint Account Owners.

Any notice VBS sends to one Account Owner will be deemed to be notice to all Account Owners.

Plan Sponsors and Vanguard Fiduciary Trust Company

If Your Account is held in a Vanguard Brokerage Option of an employer-sponsored Plan, VBS may accept transaction and other instructions from the Plan Sponsor, named fiduciary or investment manager of the Plan, or from the Plan trustee.

h. Market Volatility

During periods of Market Volatility, there may be disruptions, suspensions, or halts in trading in individual Securities, or at some or all exchanges or other venues that trade Securities. As a result, there may be delays in executing Your order, and there may be a significant difference in the quote You receive at the time You place Your trade and the execution price You receive. You may also receive partial executions of Your order at different prices. During periods of Market Volatility and at all other times, VBS may, in its sole discretion and without prior notice, limit the types of orders it accepts, or prevent Securities from being traded through VBS' services. If You attempt to place a trade during periods of Market Volatility, then You accept the risks that may result, and waive any claim to losses, including, without limitation, lost profits or damages resulting from the inability to place orders for impacted Securities.

9. Contractual Terms

This section outlines the contractual terms of this Agreement. If You do not understand them, please contact Us or seek advice from Your attorney. This Agreement and its terms and conditions are binding, without limitation, on You and Your heirs, executors, administrators, successors, and assignees.

a. Governing Law

Disputes arising out of or in connection with Your Account or this Agreement will be decided and enforced in accordance with the laws of the State of New York (regardless of the choice of law rules thereof).

b. Assignment

VBS may assign its rights and obligations under this Agreement to its parent or to any of its subsidiaries, affiliates, or successors without notice to You. VBS may assign its rights and obligations under this Agreement to any other entity (one that is not a parent, subsidiary, affiliate, or successor) after giving You thirty (30) days' written notice. You may not assign Your rights and obligations under the Agreement without first obtaining VBS' written consent.

c. Liability

VBS is not responsible for determining whether a person is eligible to serve, or capable of serving, as Your Representative, or for transactions effected in an Account after a Representative's authority has been revoked but before VBS was provided written notice of the revocation and an opportunity to react to the

notice. You agree to hold VBS, and any of its parents, subsidiaries, or affiliates, and any of their officers, directors, employees, and agents harmless from any liability, claim, or expense (including attorneys' fees) for the actions or inactions of Your Representative. Neither VBS nor any of its parents, affiliates, or subsidiaries, or any of their respective employees, officers, or directors (collectively, "VBS entities"), will be liable to You or to any third parties for any expenses, losses, damages, liabilities, demands, charges, and claims of any kind or nature whatsoever (including without limitation any legal expenses and costs or expenses relating to investigating or defending any demands, charges, and claims) (collectively, "Losses") by or with respect to the Account. The VBS entities will not be liable for any Losses or damages caused directly or indirectly by: government restrictions; exchange or market rulings; Market Volatility or disruptions in order trading on any exchange or market; suspension of trading; war; strikes; severe weather; natural disasters; other acts of God; failure of computer or other electronic or mechanical equipment or communication lines; acts of terrorism; failure of third parties to follow instructions; or other conditions and occurrences beyond the VBS entities' control.

d. Severability

If any provision or condition of this Agreement shall be held to be invalid or unenforceable by any court or regulatory or self-regulatory agency or body, such invalidity or unenforceability shall attach only to such provision or condition. The validity of the remaining provisions and conditions shall not be affected thereby, and this Agreement shall be valid and enforceable as if any such invalid or unenforceable provision or condition were not contained herein.

e. Entire Agreement, Amendment, and Waiver

This Agreement incorporates into it any terms and conditions contained on the Brokerage Account Application as well as any terms and conditions contained on the Account statements and confirmations We send to You. This Agreement, with incorporations and as amended from time to time, contains the entire understanding between You and VBS concerning Your Account and Our provision of services relating to that Account.

Upon notice to You, VBS may modify or rescind existing provisions or add new provisions to the Agreement, and You agree to abide by the Agreement, as amended from time to time. VBS may waive its rights under this Agreement. Any waivers by VBS under this Agreement must be expressed in writing and signed by VBS. A waiver will apply only to the particular circumstance giving rise to the waiver and will not be considered a continuing waiver in other similar circumstances unless VBS states, in writing, that its intention is to make the waiver a continuing waiver. VBS' failure to insist on strict compliance with the Agreement is not a waiver of any of its rights under the Agreement.

f. Arbitration

This Agreement contains a predispute arbitration clause. Under this clause, which you agree to when signing your account application, the parties to this Agreement agree as follows:

- All parties to this Agreement are giving up the right to sue each other in court, including the right to a trial by jury, 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 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.

You agree to settle by arbitration any controversy between or among You and VBS arising out of or relating to VBS' business or this Agreement. Such arbitration will be conducted by, and in accordance with, the securities arbitration rules and regulations then in effect of FINRA or any national securities exchange that provides a forum for the arbitration of disputes, provided that VBS is a member of such national securities exchange at the time the arbitration is initiated. Your demand for arbitration shall be made within the time prescribed by those rules and will be subject to the applicable state or federal statutes of limitations as though filed in court. The award of the arbitrator will be final and binding, and judgment on the award may be entered in any court having jurisdiction. No person shall 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 customer is excluded from the class by the court. Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this Agreement except to the extent stated herein.



Vanguard Brokerage Services

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VBSAACP 112023

Business continuity planning and disaster recovery at Vanguard

Continuity planning

To help give our clients the best chance at investment success, we must plan carefully to ensure a quick, smooth recovery in the event of a disaster or emergency. To that end, Vanguard has invested significant resources and is committed company-wide—from Chief Executive Officer Tim Buckley to each employee—to ensuring that your assets are safe and that our service to you continues without interruption.

Our approach is simple. We think of our business as a chain. Each link—people, facilities, processes, infrastructure, and information—is an important component of our operation and must be accounted for and tested as part of an overall business continuity program.

To accomplish this, we established the Business Continuity Management (BCM) group within our Global Risk & Security Division. BCM is dedicated to leading and coordinating the planning, development, testing, and execution of a global program designed to ensure the recovery and restoration of critical operations following a disruption.

Our approach includes three major components: (1) detailed, written business continuity plans; (2) data security and technology recovery; and (3) business continuity tests.

Business continuity plans

- We have developed plans to respond to a range of incidents, from worst-case scenarios—such as loss of a data center, buildings, or staff—to occurrences such as a power outage or unprecedented phone volumes.
- We work with our business teams to refine plans for short-, medium-, and long-term pandemic, cybersecurity, and other crisis scenarios.
- We assess the design of mission-critical suppliers' and business partners' business continuity programs.
- We assist Vanguard's human resources, global security, environmental and occupational safety, and compliance teams in coordinating with appropriate law enforcement authorities, health and safety experts, and regulators.
- We work with Vanguard's communications teams and others to ensure employees receive training and necessary information about alternate business processes, external developments, and health and safety precautions.

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Data security and recovery

- The security of our clients' accounts is extremely important to us. Accordingly, we have implemented a variety of sophisticated measures designed to protect client assets and account information.
- We ensure, through our information technology team, that systems are equipped with the appropriate hardware and software to secure client data. To mitigate computer virus attacks and other acts of cyberterrorism, we have implemented best-in-class controls monitored by a dedicated team of information security specialists.
- We maintain redundant systems and off-site data storage to enable recovery of data in the event of a disaster.

Business continuity tests

- We conduct continuity and recovery plan tests for all Vanguard business units throughout the year. These include communication (phone tree and emergency notification system) tests and alternate workspace exercises.
- We conduct workshops, tabletop exercises, and crisis response drills. These have included Vanguard-only exercises as well as collaborations with law enforcement to validate our ability to work together during an emergency.
- We assess response and recovery capabilities with key business partners, critical vendors, and other external organizations through periodic tabletop exercises.
- We conduct disaster recovery simulations with our information technology division to gauge readiness in the event of an emergency.

Continuing to serve our clients

In addition to regular planning and testing, Vanguard uses several routine business strategies to ensure that our operations are both flexible and resilient.

To reduce the potential impact of global events (such as a pandemic) and regional incidents (such as a major power outage or winter storm), we maintain geographic diversification by running key business functions from multiple locations. Moreover, significant buildings have redundant or emergency power-supply capabilities. In addition, we are able to shift our operating model to manage business-as-usual operations remotely in most cases. This ensures that our most critical resources and employees are available to all clients during an emergency.

Complementing our multiple campus locations in the U.S., Vanguard offices outside the country offer additional recovery options. Our global locations can transfer trading between regions as necessary (which also facilitates follow-the-sun trading) and provide critical support functions such as IT incident management and cybersecurity operations. Should events warrant, our executive enterprise incident response and communications teams are prepared to lead our response.

Business disruption information

In the event of a significant business disruption, please visit our website at vanguard.com for additional information, including instructions to ensure prompt access to your assets.

Ascensus notice of business continuity plans

For clients of Vanguard Brokerage Services® and Ascensus College Savings

The following is a general description of plans in place at Vanguard, Vanguard Brokerage Services ("Vanguard Brokerage"), and Ascensus College Savings to maintain business continuity in the event that operations are disrupted for any reason.

At Ascensus*, we know how much our Plan participants rely on our systems and services. We also recognize that business disruptions of varying scope can and do occur. Ascensus wants you to know that we have plans in place designed to safeguard your assets and protect vital account information in the event of a business disruption. Ascensus and its affiliated companies have developed plans to recover from situations including, but not limited to, facilities failures that may cause business interruption. These plans are designed to account for interruptions of varying length and scope and require that Ascensus is able to recover mission-critical functions according to their time criticality. In order to maintain secure and effective plans, Ascensus does not provide the specific details in this notice, but you should be aware that Ascensus' corporate disaster recovery planning includes the following:

1. Identification of all mission critical systems and backup facilities and arrangements
2. Setup of alternate communication channels between Ascensus and its customer and business partners
3. Alternate physical site location and preparedness
4. An ongoing review of financial and operational risks
5. Employee safety strategies and communications

Ascensus mitigates risks to reduce the potential impact on customer service. In addition to following the guidelines stated above, Ascensus' recovery plans also include the following:

- **Designated Contingency Sites**—Ascensus maintains designated contingency sites to provide for the backup and recovery of data, maintenance of mission critical applications, and business resumption activities for key business personnel and critical business functions.
- **Notification to Clients**—Procedures for notifying Plan Participants have been established for Ascensus associates to follow in the event of an outage. Notification will include information regarding length of outage, instructions for contacting Ascensus, and support information (e.g., where to send faxes, and issues pertaining to data transmissions and communications).
- **Access to Your Funds**—A site outage should not impact your ability to access your investments, as Ascensus' business continuity plans are designed to facilitate sustained service. However, your ability to trade securities may be impacted by market events outside of Ascensus' control. Our business continuity plans are designed to ensure necessary personnel are available to assist with transactions.

Please note that Ascensus' business continuity plans are reviewed as necessary, and at least annually, to ensure they account for technology, business, and regulatory changes, operations, structure, or location. The plans are subject to change, and material changes will be reflected in an updated "Notice of Business Continuity Plans" that will be posted on our website, <https://www2.ascensus.com/college-savings-plans-ascensus-inc/>. You may obtain a current written copy of this notice by contacting an Ascensus representative or by visiting our website at <https://www2.ascensus.com/college-savings-plans-ascensus-inc/>.

*Ascensus consists of Ascensus College Savings Recordkeeping Services, LLC, Ascensus Investment Advisors, LLC, and Ascensus Broker Dealer Services, LLC.

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