

AMENDED AND RESTATED CUSTODY AGREEMENT

AMENDED AND RESTATED CUSTODY AGREEMENT, dated as of June 19, 2001 between each open-end management investment company listed on Schedule II hereto as amended from time to time (each such investment company, a "Fund"), each a business trust organized and existing under the laws of the State of Delaware and registered with the U.S. Securities and Exchange Commission under the Investment Company Act of 1940, as amended (the "1940 Act"), on behalf of certain of their series (each a "Series") having their principal office and place of business at c/o The Vanguard Group ("Vanguard"), P.O. Box 2600, Valley Forge, Pennsylvania 19482 and The Bank of New York, a New York corporation authorized to do a banking business having its principal office and place of business at One Wall Street, New York, New York 10286 ("Custodian").

WITNESSETH:

that for and in consideration of the mutual promises hereinafter set forth each Fund and Custodian agree as follows:

ARTICLE I DEFINITIONS

Whenever used in this Agreement, the following words shall have the meanings set forth below:

1. "Authorized Person" shall be any person, whether or not an officer or employee of a Fund, duly authorized to execute any Certificate or to give any Oral Instruction with respect to one or more Accounts, such persons to be designated in a Certificate as may be received by Custodian from time to time.
2. "Autofax" shall mean an unsigned hard copy facsimile generated by a Fund's computer system and transmitted to Custodian.
3. "BNY Affiliate" shall mean any office, branch or subsidiary of The Bank of New York Company, Inc.
4. "Book-Entry System" shall mean the Federal Reserve/Treasury book-entry system for receiving and delivering securities, its successors and nominees.
5. "Business Day" shall mean any day on which Custodian, Book-Entry System and relevant Depositories are open for business:
6. "Certificate" shall mean any notice, instruction, or other instrument in writing, authorized or required by this Agreement to be given to Custodian, which is actually received by Custodian by letter or facsimile transmission and signed on behalf of a Fund by an Authorized Person of the Fund or a person reasonably believed by Custodian to be an Authorized Person.

7. "Composite Currency Unit" shall mean the Euro or any other composite currency unit consisting of the aggregate of specified amounts of specified currencies, as such unit may be constituted from time to time.

8. "Depository" shall include (a) the Book-Entry System, (b) the Depository Trust Company, (c) any other clearing agency or securities depository registered with the Securities and Exchange Commission identified to a Fund from time to time, and (d) the respective successors and nominees of the foregoing.

9. "Foreign Depository" shall mean (a) Euroclear, (b) Clearstream Banking, societe anonyme, (c) each Eligible Securities Depository as defined in Rule 17f-7 under the 1940 Act, as amended, identified to a Fund from time to time, and (d) the respective successors and nominees of the foregoing.

10. "Instructions" shall mean communications transmitted by electronic or telecommunications media, including S.W.I.F.T., computer-to-computer interface, dedicated transmission lines, telex or Autofax.

11. "Oral Instructions" shall mean verbal instructions received by Custodian from an Authorized Person or from a person reasonably believed by Custodian to be an Authorized Person.

12. "Securities" shall include, without limitation, any common stock and other equity securities, bonds, debentures and other debt securities, notes, mortgages or other obligations, and any instruments representing rights to receive, purchase, or subscribe for the same, or representing any other rights or interests therein (whether represented by a certificate or held in a Depository or by a Subcustodian).

13. "Series" shall mean the various portfolios, if any, of a Fund listed on Schedule II hereto, and if none are listed references to Series shall be references to the Fund.

14. "Subcustodian" shall mean a bank (including any branch thereof) or other financial institution (other than a Foreign Depository) located outside the U.S. which is utilized by Custodian in connection with the purchase, sale or custody of Securities hereunder and identified to a Fund from time to time, and their respective successors and nominees.

ARTICLE II APPOINTMENT OF CUSTODIAN; ACCOUNTS; REPRESENTATIONS, WARRANTIES, AND COVENANTS

1. (a) Each Fund hereby appoints Custodian as custodian of all Securities and cash at any time delivered to Custodian during the term of this Agreement, and authorizes Custodian to hold Securities in registered form in its name or the name of its nominees. Custodian hereby accepts such appointment and agrees to establish and maintain one or more securities accounts and cash accounts for each Series in which Custodian will hold Securities and cash as provided herein. Custodian shall maintain books and records segregating the assets of each Series from

the assets of any other Series. Such accounts (each, an "Account"; collectively, the "Accounts") shall be in the name of the Fund on behalf of the relevant Series.

(b) Custodian may from time to time establish on its books and records such sub-accounts within each Account as a Fund and Custodian may reasonably agree upon (each a "Special Account"), and Custodian shall reflect therein such assets as the Fund may specify in a Certificate or Instructions.

(c) Custodian may from time to time establish pursuant to a written agreement with and for the benefit of a broker, dealer, futures commission merchant or other third party identified in a Certificate or Instructions such accounts on such terms and conditions as a Fund and Custodian shall reasonably agree, and Custodian shall transfer to such account such Securities and money as the Fund may specify in a Certificate or Instructions.

2. Each Fund hereby represents and warrants, which representations and warranties shall be continuing and shall be deemed to be reaffirmed upon each delivery of a Certificate or each giving of Oral Instructions or Instructions by such Fund, that:

(a) It is duly organized and existing under the laws of the jurisdiction of its organization, with full power to carry on its business as now conducted, to enter into this Agreement, and to perform its obligations hereunder;

(b) This Agreement has been duly authorized, executed and delivered by the Fund, approved by a resolution of its board of trustees, constitutes a valid and legally binding obligation of the Fund, enforceable in accordance with its terms, except as may be limited by bankruptcy, insolvency or other laws affecting generally the enforceability of creditors' rights or by equitable principles generally applied, and there is no statute, regulation, rule, order or judgment binding on it, and no provision of its charter or by-laws, nor of any mortgage, indenture, credit agreement or other contract binding on it or affecting its property, which would prohibit its execution or performance of this Agreement;

(c) It is conducting its business in substantial compliance with all applicable laws and requirements, both state and federal, and has obtained all regulatory licenses, approvals and consents necessary to carry on its business as now conducted;

(d) It will not use the services provided by Custodian hereunder in any manner that is, or will result in, a violation of any law, rule or regulation applicable to the Fund;

(e) Its board of trustees or its foreign custody manager, as defined in Rule 17f-5 under the 1940 Act, has determined that use of each Subcustodian (including any Replacement Custodian) and each Depository which Custodian or any Subcustodian is authorized to utilize in accordance with Section 1(a) of Article III hereof, satisfies the applicable requirements of the 1940 Act and Rules 17f-4 or 17f-5 thereunder, as the case may be;

(f) Upon receiving from Custodian an initial analysis of and information concerning changes in the custody risks associated with maintaining assets at a Foreign

Depository, the Fund or its investment adviser has determined that the custody arrangements of each Foreign Depository provide reasonable safeguards against the custody risks associated with maintaining assets with such Foreign Depository within the meaning of Rule 17f-7 under the 1940 Act;

(g) It is fully informed of the protections and risks associated with various methods of transmitting Instructions and Oral Instructions and delivering Certificates to Custodian, understands that there may be more secure methods of transmitting or delivering the same than the methods selected by the Fund, agrees that the security procedures (if any) to be utilized provide a commercially reasonable degree of protection in light of its particular needs and circumstances, acknowledges and agrees that Instructions need not be reviewed by Custodian if such Instructions require authentication codes and have such codes, acknowledges and agrees the same may conclusively be presumed by Custodian to have been given by person(s) duly authorized, and may be acted upon as given;

(h) It shall manage its borrowings, including, without limitation, any advance or overdraft (including any day-light overdraft) in the Accounts, so that the aggregate of its total borrowings for each Series does not exceed the amount such Series is permitted to borrow under the 1940 Act;

(i) Its transmission or giving of, and Custodian acting upon and in reliance on, Certificates, Instructions, or Oral Instructions pursuant to this Agreement shall at all times comply with the 1940 Act;

(j) It shall impose and maintain restrictions on the destinations to which cash may be disbursed by Instructions to ensure that each disbursement is for a proper purpose; and

(k) It has the right to make the pledge and grant the security interest and security entitlement to Custodian contained in Section 1 of Article V hereof, free of any right or prior claim of any other person or entity (except as otherwise provided by law), such pledge and such grants shall have a first priority subject to no setoffs, counterclaims, or other liens or grants prior to or on a parity therewith (except as otherwise provided by law).

3. The Fund hereby covenants that it shall from time to time complete and execute and deliver to Custodian upon Custodian's request a Form FR U-1 (or successor form) whenever the Fund borrows from Custodian any money to be used for the purchase or carrying of margin stock as defined in Federal Reserve Regulation U.

4. Custodian hereby represents and warrants, which representations and warranties shall be continuing and shall be deemed to be reaffirmed upon each receipt of a Certificate or each receipt of Oral Instructions or Instructions by the Custodian, that:

(a) It is duly organized and existing under the laws of the jurisdiction of its organization, with full power to carry on its business as now conducted, to enter into this Agreement and to perform its obligations hereunder;

(b) This Agreement has been duly authorized, executed and delivered by Custodian, constitutes a valid and legally binding obligation of Custodian, enforceable in accordance with its terms, except as may be limited by bankruptcy, insolvency or other laws affecting generally the enforceability of creditors' rights or by equitable principles generally applied, and there is no statute, regulation, rule, order or judgment binding on it, and no provision of its charter or by-laws, nor of any mortgage, indenture, credit agreement or other contract binding on it or affecting its property, which would prohibit its execution or performance of this Agreement;

(c) It is conducting its business in substantial compliance with all applicable laws and requirements, both state and federal, and has obtained all regulatory licenses, approvals and consents necessary to carry on its business as now conducted;

(d) It will not provide services hereunder in any manner that is, or will result in, a violation of any law, rule or regulation applicable to the Custodian;

(e) Custodian will submit to the Funds on an annual basis a copy of its report prepared in compliance with the requirements of Statement of Auditing Standards No. 70 issued by the American Institute of Certified Public Accountants, as it may be amended from time to time; and

(f) Custodian shall maintain, directly or through a third party selected with reasonable care, back-up computer and communication systems.

ARTICLE III CUSTODY AND RELATED SERVICES

1. (a) Subject to the terms hereof, each Fund hereby authorizes Custodian to hold any Securities and cash received by it from time to time for such Fund's account. Custodian shall be entitled to utilize Depositories, Subcustodians, and, subject to subsection (c) of this Section 1, Foreign Depositories, to the extent possible in connection with its performance hereunder. Securities and cash held in a Depository or Foreign Depository will be held subject to the rules, terms and conditions of such entity. Securities and cash held through Subcustodians shall be held subject to the terms and conditions of Custodian's agreements with such Subcustodians. Subcustodians may be authorized to hold Securities in Foreign Depositories in which such Subcustodians participate. Unless otherwise required by local law or practice or a particular subcustodian agreement, Securities deposited with a Subcustodian, a Depository or a Foreign Depository will be held in a commingled account, in the name of Custodian, holding only Securities held by Custodian as custodian for its customers. Custodian shall identify on its books and records the Securities and cash belonging to each Fund and their Series, whether held directly or indirectly through Depositories, Foreign Depositories, or Subcustodians. Custodian shall, directly or indirectly through Subcustodians, Depositories, or Foreign Depositories, endeavor, to the extent feasible, to hold Securities in the country or other jurisdiction in which the principal trading market for such Securities is located, where such Securities are to be presented for cancellation and/or payment and/or registration, or where such Securities are acquired. Custodian at any time may cease utilizing any Subcustodian and/or may replace a

Subcustodian with a different Subcustodian (the "Replacement Subcustodian"). In the event Custodian selects a Replacement Subcustodian, Custodian shall not utilize such Replacement Subcustodian until after the Fund's board or foreign custody manager has determined that utilization of such Replacement Subcustodian satisfies the requirements of the 1940 Act and Rule 17f-5 thereunder.

(b) Unless Custodian has received a Certificate or Instructions to the contrary, Custodian shall hold Securities indirectly through a Subcustodian only if (i) the Securities are not subject to any right, charge, security interest, lien or claim of any kind in favor of such Subcustodian or its creditors or operators, including a receiver or trustee in bankruptcy or similar authority, except for a claim of payment for the safe custody or administration of Securities on behalf of the Fund by such Subcustodian, and (ii) beneficial ownership of the Securities is freely transferable without the payment of cash or value other than for safe custody or administration.

(c) With respect to each Foreign Depository, Custodian shall exercise reasonable care, prudence, and diligence (i) to provide the Fund with an analysis of the custody risks associated with maintaining assets with the Foreign Depository, and (ii) to monitor such custody risks on a continuing basis and promptly notify the Fund or the Fund's investment adviser of any material change in such risks. Each Fund acknowledges and agrees that such analysis and monitoring shall be made on the basis of, and limited by, information gathered from Subcustodians or through publicly available information otherwise obtained by Custodian, and shall include information concerning, but no evaluation of, Country Risks. As used herein the term "Country Risks" shall mean with respect to any Foreign Depository: (a) the financial infrastructure of the country in which it is organized, (b) such country's prevailing custody and settlement practices, (c) nationalization, expropriation or other governmental actions, (d) such country's regulation of the banking or securities industry, (e) currency controls, restrictions, devaluations or fluctuations, and (f) market conditions which affect the order execution of securities transactions or affect the value of securities.

2. Promptly after the close of business on each Business Day or the next Business Day in the case of a Subcustodian or Foreign Depository, or in accordance with practices in the related local market, Custodian shall furnish each Fund with confirmations and a summary, on a per Series basis, of all transfers to or from the Accounts, either hereunder or with any Subcustodian appointed in accordance with this Agreement during said day. Where Securities are transferred to an Account for a Series, Custodian shall also by book-entry or otherwise identify as belonging to such Series a quantity of Securities in a fungible bulk of Securities registered in the name of Custodian (or its nominee) or shown on Custodian's account on the books of the Book-Entry System or a Depository. At least monthly and from time to time, Custodian shall furnish each Fund with a detailed statement, on a per Series basis, of the Securities and cash held by Custodian for such Fund.

3. With respect to all Securities held hereunder, Custodian shall, unless otherwise instructed to the contrary:

(a) Collect and receive all income and other payments and advise each Fund as promptly as practicable of any such amounts due but not paid;

(b) Give notice to each Fund and present payment and collect the amount payable upon such Securities that are called, but only if either (i) Custodian receives a written notice of such call, or (ii) notice of such call appears in or is received from a nationally recognized bond or corporate action service to which Custodian subscribes;

(c) Unless otherwise instructed by a Fund, Custodian shall retain in the appropriate account any stock dividends, subscription rights and other non-cash distributions on the Securities, or the proceeds from the sale of any distributions. Custodian shall notify a Fund upon the receipt of any non-cash item.

(d) Present for payment and collect the amount payable upon all Securities which may mature, promptly deposit or withdraw such proceeds as designated therein and advise each Fund as promptly as practicable of any such amounts due but not paid;

(e) Surrender Securities in temporary form for definitive Securities;

(f) Forward to each Fund copies of all information or documents that it may actually receive from an issuer of Securities which, in the opinion of Custodian, are intended for the beneficial owner of Securities;

(g) Execute, as custodian, any certificates of ownership, affidavits, declarations or other certificates under any tax laws now or hereafter in effect in connection with the collection of bond and note coupons;

(h) Hold directly or through a Depository, a Foreign Depository, or a Subcustodian all rights and similar Securities issued with respect to any Securities credited to an Account hereunder; and

(i) Endorse for collection checks, drafts or other negotiable instruments.

4. (a) Custodian shall notify each Fund of rights or discretionary actions with respect to Securities held hereunder, and of the date or dates by when such rights must be exercised or such action must be taken (each a "Notice" and collectively "Notices"), provided that Custodian has actually received, from the issuer or the relevant Depository (with respect to Securities issued in the United States) or from the relevant Subcustodian, Foreign Depository, or a nationally or internationally recognized bond or corporate action service to which Custodian subscribes (each a "Notice Provider" and collectively "Notice Providers"), timely notice of such rights or discretionary corporate action or of the date or dates such rights must be exercised or such action must be taken. Absent actual receipt of Notices, Custodian shall have no liability for failing to so notify a Fund except as provided in the last sentence of this paragraph. Custodian shall use reasonable care in forwarding such Notice to the relevant Fund. Custodian shall use reasonable care in the selection of a Notice Provider other than a Foreign Depository. To the extent an officer of the Custodian, with working knowledge of the Accounts, has actual

knowledge that a Notice Provider has failed to provide Notices to the Custodian, the Custodian shall use reasonable care to obtain a mailing of such Notice from such Notice Provider or except in the case of a Foreign Depository use an alternative Notice Provider.

(b) Whenever Securities (including, but not limited to, warrants, options, tenders, options to tender or non-mandatory puts or calls) confer discretionary rights on a Fund or provide for discretionary action or alternative courses of action by a Fund, the Fund shall be responsible for making any decisions relating thereto and for directing Custodian to act. In order for Custodian to act, it must receive the Fund's Certificate or Instructions at Custodian's offices, addressed as Custodian may from time to time request, at such date or time as Custodian may specify to the Fund. Absent Custodian's timely receipt of such Certificate or Instructions, Custodian shall not be liable for failure to take any action relating to or to exercise any rights conferred by such Securities.

5. All voting rights with respect to Securities, however registered, shall be exercised by the Fund or its designee. For Securities issued in the United States, Custodian's only duty shall be to mail to the Funds any documents (including proxy statements, annual reports and signed proxies) actually received by Custodian relating to the exercise of such voting rights. With respect to Securities issued outside of the United States, Custodian's only duty shall be to provide the Funds with access to a provider of global proxy services at a Fund's request. The Fund using the services shall be responsible for all associated costs.

6. Custodian shall promptly advise a Fund upon Custodian's actual receipt of notification of the partial redemption, partial payment or other action affecting less than all Securities of the relevant class. If Custodian, any Subcustodian, any Depository, or any Foreign Depository holds any Securities in which the Fund has an interest as part of a fungible mass, Custodian, such Subcustodian, Depository, or Foreign Depository may select the Securities to participate in such partial redemption, partial payment or other action in any non-discriminatory manner that it customarily uses to make such selection.

7. Custodian shall not under any circumstances accept bearer interest coupons which have been stripped from United States federal, state or local government or agency securities unless explicitly agreed to by Custodian in writing.

8. Each Fund shall be liable for all taxes, assessments, duties and other governmental charges, including any interest or penalty with respect thereto ("Taxes"), with respect to any cash or Securities held on behalf of such Fund or any transaction related thereto. Each Fund shall indemnify Custodian and each Subcustodian for the amount of any Tax that Custodian, any such Subcustodian or any other withholding agent is required under applicable laws (whether by assessment or otherwise) to pay on behalf of, or in respect of income earned by or payments or distributions made to or for the account of the Fund (including any payment of Tax required by reason of an earlier failure to withhold). Custodian shall, or shall instruct the applicable Subcustodian or other withholding agent to, withhold the amount of any Tax which is required to be withheld under applicable law upon collection of any dividend, interest or other distribution made with respect to any Security and any proceeds or income from the sale, loan or other

transfer of any Security. In the event that Custodian or any Subcustodian is required under applicable law to pay any Tax on behalf of a Fund, Custodian is hereby authorized to withdraw cash from any cash account in the amount required to pay such Tax and to use such cash, or to remit such cash to the appropriate Subcustodian or other withholding agent, for the timely payment of such Tax in the manner required by applicable law. If the aggregate amount of cash in all cash accounts is not sufficient to pay such Tax, Custodian shall promptly notify the Fund of the additional amount of cash (in the appropriate currency) required, and the Fund shall directly deposit such additional amount in the appropriate cash account promptly after receipt of such notice, for use by Custodian as specified herein. In the event that Custodian reasonably believes that Fund is eligible, pursuant to applicable law or to the provisions of any tax treaty, for a reduced rate of, or exemption from, any Tax which is otherwise required to be withheld or paid on behalf of the Fund under any applicable law, Custodian shall, or shall instruct the applicable Subcustodian or withholding agent to, either withhold or pay such Tax at such reduced rate or refrain from withholding or paying such Tax, as appropriate; provided that Custodian shall have received from the Fund all documentary evidence of residence or other qualification for such reduced rate or exemption required to be received under such applicable law or treaty. In the event that Custodian reasonably believes that a reduced rate of, or exemption from, any Tax is obtainable only by means of an application for refund, Custodian and the applicable Subcustodian shall have no responsibility for the accuracy or validity of information provided by a Fund on any forms or documentation provided by the Fund to Custodian hereunder. Each Fund hereby agrees to indemnify and hold harmless Custodian and each Subcustodian in respect of any liability arising from any underwithholding or underpayment of any Tax which results from the inaccuracy or invalidity of information provided by a Fund on any such forms or other documentation, and such obligation to indemnify shall be a continuing obligation of such Fund, its successors and assigns notwithstanding the termination of this Agreement.

9. (a) For the purpose of settling Securities and foreign exchange transactions, each Fund shall provide Custodian with sufficient immediately available funds for all transactions by such time and date as conditions in the relevant market dictate. As used herein, "sufficient immediately available funds" shall mean either (i) sufficient cash denominated in U.S. dollars to purchase the necessary foreign currency, or (ii) sufficient applicable foreign currency to settle the transaction. Custodian shall provide each Fund with immediately available funds each day which result from the actual settlement of all sale transactions, based upon advices received by Custodian from Subcustodians, Depositories, and Foreign Depositories. Such funds shall be in U.S. dollars or such other currency as a Fund may specify to Custodian.

(b) Any foreign exchange transaction effected by Custodian in connection with this Agreement may be entered with Custodian or a BNY Affiliate acting as principal or otherwise through customary banking channels. Each Fund may issue a standing Certificate or Instructions with respect to foreign exchange transactions, but Custodian may establish rules or limitations concerning any foreign exchange facility made available to the Funds. Each Fund shall bear all risks of investing in Securities or holding cash denominated in a foreign currency.

(c) To the extent that Custodian has agreed to provide pricing or other information services in connection with this Agreement, Custodian is authorized to utilize any

vendor (including brokers and dealers of Securities) reasonably believed by Custodian to be reliable to provide such information. Each Fund understands that certain pricing information with respect to complex financial instruments (e.g., derivatives) may be based on calculated amounts rather than actual market transactions and may not reflect actual market values, and that the variance between such calculated amounts and actual market values may or may not be material. Where vendors do not provide information for particular Securities or other property, an Authorized Person may advise Custodian in a Certificate regarding the fair market value of, or provide other information with respect to, such Securities or property as determined by it in good faith. Custodian shall not be liable for any loss, damage or expense incurred as a result of errors or omissions in pricing or other information received and utilized by Custodian hereunder. Nevertheless, Custodian shall be liable for the performance of any vendor selected by Custodian that is a BNY Affiliate to the same extent as Custodian would have been liable if it performed such services itself.

10. Custodian shall promptly send to a Fund (a) any reports it receives from a Depository on such Depository's system of internal accounting control, and (b) such reports on its own system of internal accounting control as the Fund may reasonably request from time to time.

ARTICLE IV PURCHASE AND SALE OF SECURITIES; CREDITS TO ACCOUNT

1. Promptly after each purchase or sale of Securities by a Fund, the Fund shall deliver to Custodian a Certificate or Instructions, or with respect to a purchase or sale of a Security generally required to be settled on the same day the purchase or sale is made, Oral Instructions specifying all information Custodian may reasonably request to settle such purchase or sale. Custodian shall account for all purchases and sales of Securities on the actual settlement date unless otherwise agreed by Custodian.

2. Each Fund understands that when Custodian is instructed to deliver Securities against payment, delivery of such Securities and receipt of payment therefor may not be completed simultaneously. Notwithstanding any provision in this Agreement to the contrary, settlements, payments and deliveries of Securities may be effected by Custodian or any Subcustodian in accordance with the customary or established securities trading or securities processing practices and procedures in the jurisdiction in which the transaction occurs, including, without limitation, delivery to a purchaser or dealer therefor (or agent) against receipt with the expectation of receiving later payment for such Securities. Each Fund assumes full responsibility for all risks, including, without limitation, credit risks, involved in connection with such deliveries of Securities, except the foregoing shall not excuse Custodian's acting in accordance with such practices and procedures in a manner that constitutes negligence, bad faith or willful misconduct.

3. Custodian may, as a matter of bookkeeping convenience or by separate agreement with a Fund, credit the Account with the proceeds from the sale, redemption or other disposition of Securities or interest, dividends or other distributions payable on Securities prior to its actual receipt of final payment therefor. All such credits shall be conditional until Custodian's actual

receipt of final payment and may be reversed by Custodian to the extent that final payment is not received. Custodian shall notify the appropriate Fund at least 48 hours prior to any such reversal, but such reversal shall be made as of the date Custodian determines it has not received final payment. Payment with respect to a transaction will not be "final" until Custodian shall have received immediately available funds which under applicable local law, rule and/or practice are irreversible and not subject to any security interest, levy or other encumbrance, and which are specifically applicable to such transaction.

ARTICLE V OVERDRAFTS OR INDEBTEDNESS

1. If Custodian should in its sole discretion advance funds on behalf of any Series which results in an overdraft (including, without limitation, any day-light overdraft) because the cash held by Custodian in an Account for such Series shall be insufficient to pay the total amount payable upon a purchase of Securities specifically allocated to such Series, as set forth in a Certificate, Instructions or Oral Instructions, or if an overdraft arises in the separate Account of a Series for some other reason, including, without limitation, because of a reversal of a conditional credit or the purchase of any currency, or if the Fund is for any other reason indebted to Custodian with respect to a Series, (except a borrowing for investment or for temporary or emergency purposes using Securities as collateral pursuant to a separate agreement and subject to the provisions of Section 2 of this Article), Custodian shall promptly notify the appropriate Fund of any such advance and the time at which such advance or overdraft must be paid. Such overdraft or indebtedness shall be deemed to be a loan made by Custodian to the Fund for such Series payable on demand and shall bear interest from the date incurred at a rate per annum agreed by such Fund and Custodian from time to time, or, in the absence of an agreement, at the rate ordinarily charged by Custodian to its institutional customers, as such rate may be adjusted from time to time. In addition, the Fund hereby agrees that Custodian shall to the maximum extent permitted by law have a continuing lien, security interest, and security entitlement in and to such Securities of such Series as shall have a fair market value equal to the aggregate amount of all overdrafts of, or advances to, such Series, together with accrued interest, such lien, security interest and security entitlement to be effective only so long as such advance, overdraft, or accrued interest thereon remains outstanding. The Fund authorizes Custodian to charge any such overdraft or indebtedness together with interest due thereon against any balance of account standing to such Series' credit on Custodian's books.

2. If a Fund borrows money from any bank (including Custodian if the borrowing is pursuant to a separate agreement) for investment or for temporary or emergency purposes using Securities held by Custodian hereunder as collateral for such borrowings, the Fund shall deliver to Custodian a Certificate specifying with respect to each such borrowing: (a) the Series to which such borrowing relates; (b) the name of the bank, (c) the amount of the borrowing, (d) the time and date, if known, on which the loan is to be entered into, (e) the total amount payable to the Fund on the borrowing date, (f) the Securities to be delivered as collateral for such loan, including the name of the issuer, the title and the number of shares or the principal amount of any particular Securities, and (g) a statement specifying whether such loan is for investment purposes or for temporary or emergency purposes and that such loan is in conformance with the 1940 Act

and the Fund's prospectus. Custodian shall deliver on the borrowing date specified in a Certificate the specified collateral against payment by the lending bank of the total amount of the loan payable, provided that the same conforms to the total amount payable as set forth in the Certificate. Custodian may, at the option of the lending bank, keep such collateral in its possession, but such collateral shall be subject to all rights therein given the lending bank by virtue of any promissory note or loan agreement. Custodian shall deliver such Securities as additional collateral as may be specified in a Certificate to collateralize further any transaction described in this Section. The Fund shall cause all Securities released from collateral status to be returned directly to Custodian, and Custodian shall receive from time to time such return of collateral as may be tendered to it. In the event that the Fund fails to specify in a Certificate the Series, the name of the issuer, the title and number of shares or the principal amount of any particular Securities to be delivered as collateral by Custodian, Custodian shall not be under any obligation to deliver any Securities. In this event, Custodian shall notify the Fund that the Securities were not delivered, and the information that the Fund failed to specify in the Certificate.

ARTICLE VI SALE AND REDEMPTION OF SHARES

1. Whenever a Fund shall sell any shares issued by the Fund ("Shares") it shall deliver to Custodian a Certificate, Instructions or Oral Instructions specifying the amount of cash and/or Securities to be received by Custodian for the sale of such Shares and specifically allocated to an Account for such Series.

2. Upon receipt of such cash from a Fund's transfer agent, Custodian shall credit such cash to an Account in the name of the Series for which such cash was received.

3. Except as provided hereinafter, whenever a Fund desires Custodian to make payment out of the cash held by Custodian hereunder in connection with a redemption of any Shares, it shall furnish to Custodian a Certificate, Instructions or Oral Instructions specifying the total amount to be paid for such Shares. Custodian shall make payment of such total amount to the transfer agent specified in such Certificate, Instructions or Oral Instructions out of the cash held in an Account of the appropriate Series.

4. Notwithstanding the above provisions regarding the redemption of any Shares, whenever any Shares are redeemed pursuant to any check redemption privilege which may from time to time be offered by a Fund, Custodian, unless otherwise instructed by a Certificate, Instructions, or Oral Instructions shall, upon presentment of such check, charge the amount thereof against the cash held in the Account of the Series of the Shares being redeemed, provided, that if the Fund or its agent timely advises Custodian that such check is not to be honored, Custodian shall return such check unpaid.

ARTICLE VII PAYMENT OF DIVIDENDS OR DISTRIBUTIONS

1. Whenever a Fund shall determine to pay a dividend or distribution on Shares it shall furnish to Custodian Instructions, Oral Instructions or a Certificate setting forth with respect to the Series specified therein the date of the declaration of such dividend or distribution, the total amount payable, and the payment date.

2. Upon the payment date specified in such Instructions, Oral Instructions or Certificate, Custodian shall pay out of the cash held for the Account of such Series the total amount payable to the dividend agent of the Fund with respect to the Series specified therein.

ARTICLE VIII CONCERNING CUSTODIAN

1. (a) Except as otherwise expressly provided herein, Custodian shall not be liable for any costs, expenses, damages, liabilities or claims, including attorneys' and accountants' fees (collectively, "Losses"), incurred by or asserted against a Fund, except those Losses arising out of Custodian's own negligence, bad faith or willful misconduct. Custodian shall have no liability whatsoever for the action or inaction of any Depositories, or, except to the extent such action or inaction is a direct result of the Custodian's failure to fulfill its duties hereunder, of any Foreign Depositories. With respect to any Losses incurred by the Fund as a result of the acts or any failures to act by any Depository, Foreign Depository or Subcustodian (other than a BNY Affiliate), Custodian shall take appropriate action to recover such Losses from such Subcustodian, Depository or Foreign Depository; and Custodian's sole responsibility and liability to the Fund shall be limited to amounts so received from such Subcustodian, Depository or Foreign Depository (exclusive of costs and expenses incurred by Custodian), except to the extent that (A) Custodian's negligence, bad faith or willful misconduct is the direct cause of such Subcustodian, Depository, or Foreign Depository's act or omission (it being agreed that Custodian's decision to use any Subcustodian, Depository or Foreign Depository shall not constitute negligence, bad faith or willful misconduct), or (B) a transaction or other matter between Custodian and such Subcustodian, Depository or Foreign Depository unrelated to the Funds was the cause of the loss or damage, in each of which events, Custodian shall be liable for such losses.

(b) In no event shall Custodian be liable to a Fund or any third party for special, indirect or consequential damages, or lost profits or loss of business, arising in connection with this Agreement, nor shall BNY or any Subcustodian be liable: (i) for acting in accordance with any Certificate or Oral Instructions actually received by Custodian and reasonably believed by Custodian to be given by an Authorized Person; (ii) for acting in accordance with Instructions requiring authentication codes if such Instructions have authentication codes without reviewing the same; (iii) for conclusively presuming that all disbursements of cash directed by the Fund, whether by a Certificate, an Oral Instruction, or an Instruction, are in accordance with Section 2(i) of Article II hereof; (iv) for holding property in any particular country, including, but not limited to, Losses resulting from nationalization, expropriation or other governmental actions;

regulation of the banking or securities industry; exchange or currency controls or restrictions, devaluations or fluctuations; availability of cash or Securities or market conditions which prevent the transfer of property or execution of Securities transactions or affect the value of property; (v) for the insolvency of any Subcustodian (other than a BNY Affiliate), any Depository, or, except to the extent such action or inaction is a direct result of the Custodian's failure to fulfill its duties hereunder, any Foreign Depository; or (vi) for any Losses arising from the applicability of any law or regulation now or hereafter in effect, or from the occurrence of any event, including, without limitation, implementation or adoption of any rules or procedures of a Foreign Depository, which may affect, limit, prevent or impose costs or burdens on, the transferability, convertibility, or availability of any currency or Composite Currency Unit in any country or on the transfer of any Securities, and in no event shall Custodian be obligated to substitute another currency for a currency (including a currency that is a component of a Composite Currency Unit) whose transferability, convertibility or availability has been affected, limited, or prevented by such law, regulation or event, and to the extent that any such law, regulation or event imposes a cost or charge upon Custodian in relation to the transferability, convertibility, or availability of any cash currency or Composite Currency Unit, such cost or charge shall be for the Account of the Fund, and Custodian may treat any Account denominated in an affected currency as a group of separate accounts denominated in the relevant component currencies. BNY shall not be liable for any Losses due to forces beyond the control of Custodian, including without limitation strikes, work stoppages, acts of war or terrorism, insurrection, revolution, nuclear or natural catastrophes or acts of God, or interruptions, loss or malfunctions of utilities, communications or computer (software and hardware) services. Custodian shall endeavor to promptly notify the Funds when it becomes aware of any situation outlined above, but shall not be liable for a failure to do so. The Funds shall not be responsible for temporary delays in the performance of their duties and obligations hereunder and correspondingly shall not be liable for any Losses attributable to such delay in consequence of an event as described above affecting the Funds' principal place of business operations or administration

(c) Custodian may enter into subcontracts, agreements and understandings with any BNY Affiliate, whenever and on such terms and conditions as it deems necessary or appropriate to perform its services hereunder. No such subcontract, agreement or understanding shall discharge Custodian from its obligations hereunder.

(d) The Funds agree to indemnify Custodian and hold Custodian harmless from and against any and all Losses sustained or incurred by or asserted against Custodian by reason of or as a result of any action or inaction, or arising out of Custodian's performance hereunder, including reasonable fees and expenses of counsel incurred by Custodian in a successful defense of claims by the Fund; provided however, that the Funds shall not indemnify Custodian for those Losses arising out of Custodian's own negligence, bad faith or willful misconduct. This indemnity shall be a continuing obligation of each Fund, their successors and assigns, notwithstanding the termination of this Agreement.

(e) Custodian agrees to indemnify each Fund against and hold each Fund harmless from and against any and all direct damages sustained or incurred because of or in connection with this Agreement; provided however, that Custodian shall only indemnify the Funds for those

direct damages arising out of Custodian's own negligence, bad faith or willful misconduct. This indemnity shall be a continuing obligation of Custodian, its successors and assigns, notwithstanding the termination of this Agreement.

2. Without limiting the generality of the foregoing, Custodian shall be under no obligation to inquire into, and shall not be liable for (except to the extent that either (a) or (b) involves Custodian's negligence, bad faith or willful misconduct):

(a) Any Losses incurred by a Fund or any other person as a result of the receipt or acceptance of fraudulent, forged or invalid Securities, or Securities which are otherwise not freely transferable or deliverable without encumbrance in any relevant market;

(b) The validity of the issue of any Securities purchased, sold, or written by or for the Fund, the legality of the purchase, sale or writing thereof, or the propriety of the amount paid or received therefor;

(c) The legality of the sale or redemption of any Shares, or the propriety of the amount to be received or paid therefor;

(d) The legality of the declaration or payment of any dividend or distribution by a Fund;

(e) The legality of any borrowing by a Fund;

(f) The legality of any loan of portfolio Securities, nor shall Custodian be under any duty or obligation to see to it that any cash or collateral delivered to it by a broker, dealer or financial institution or held by it at any time as a result of such loan of portfolio Securities is adequate collateral for the Fund against any loss it might sustain as a result of such loan, which duty or obligation shall be the sole responsibility of the Fund. In addition, Custodian shall be under no duty or obligation to see that any broker, dealer or financial institution to which portfolio Securities of the Fund are lent makes payment to it of any dividends or interest which are payable to or for the account of the Fund during the period of such loan or at the termination of such loan, provided, however that Custodian shall promptly notify the Fund in the event that such dividends or interest are not paid and received when due;

(g) The sufficiency or value of any amounts of cash and/or Securities held in any Special Account in connection with transactions by a Fund; whether any broker, dealer, futures commission merchant or clearing member makes payment to the Fund of any variation margin payment or similar payment which the Fund may be entitled to receive from such broker, dealer, futures commission merchant or clearing member, or whether any payment received by Custodian from any broker, dealer, futures commission merchant or clearing member is the amount the Fund is entitled to receive, or to notify the Fund of Custodian's receipt or non-receipt of any such payment; or

(h) Whether any Securities at any time delivered to, or held by it or by any Subcustodian, for the account of a Fund and specifically allocated to a Series are such as properly

may be held by the Fund or such Series under the provisions of its then current prospectus and statement of additional information, or to ascertain whether any transactions by a Fund, whether or not involving Custodian, are such transactions as may properly be engaged in by the Fund.

3. Custodian may, with respect to questions of law specifically regarding an Account, obtain the advice of counsel and shall be fully protected with respect to anything done or omitted by it in good faith in conformity with such advice.

4. Custodian shall be under no obligation to take action to collect any amount payable on Securities in default, or if payment is refused after due demand and presentment, unless and until (i) it shall be directed to take such action by a Certificate or Instructions and (ii) it shall be assured to its satisfaction of reimbursement of its reasonable costs and expenses in connection with any such action.

5. Custodian shall have no duty or responsibility to inquire into, make recommendations, supervise, or determine the suitability of any transactions affecting any Account.

6. Each Fund shall pay to Custodian the fees and charges as may be specifically agreed upon from time to time and such other fees and charges at agreed rates for such services as may be applicable.

7. In addition to, and not as a limitation of, Custodian's rights under Section 1 of Article V, Custodian has the right to debit a cash account in advance for any amount payable by a Fund in connection with any and all obligations of the Fund to Custodian, provided Custodian has given the Fund prior notice of such debit.

8. Each Fund agrees to forward to Custodian a Certificate or Instructions confirming Oral Instructions by the close of business of the same day that such Oral Instructions are given to Custodian. Each Fund agrees that the fact that such confirming Certificate or Instructions are not received or that a contrary Certificate or contrary Instructions are received by Custodian shall in no way affect the validity or enforceability of transactions authorized by such Oral Instructions and effected by Custodian. Under either of the two foregoing circumstances, Custodian shall promptly notify the Fund. If a Fund elects to transmit Instructions through an on-line communications system offered by Custodian, the Fund's use thereof shall be subject to the Terms and Conditions attached as Appendix I hereto, and Custodian shall provide user and authorization codes, passwords and authentication keys only to an Authorized Person or a person reasonably believed by Custodian to be an Authorized Person.

9. The books and records pertaining to a Fund which are in possession of Custodian shall be the property of such Fund. Such books and records shall be prepared and maintained as required by the 1940 Act and the rules thereunder and other applicable securities laws, rules and regulations. The Fund, or its authorized representatives, shall have access to such books and records during Custodian's normal business hours. Upon the reasonable request of a Fund, copies of any such books and records shall be provided by Custodian to the Fund or its authorized representative. Upon the reasonable request of a Fund, Custodian shall provide in

hard copy or on computer disc any records included in any such delivery which are maintained by Custodian on a computer disc, or are similarly maintained.

10. It is understood that Custodian is authorized to supply any information regarding the Accounts which is required by any law, regulation or rule now or hereafter in effect. The Custodian shall provide each Fund with any report obtained by the Custodian on the system of internal accounting control of a Depository or OCC, and with such reports on its own system of internal accounting control as a Fund may reasonably request from time to time.

11. Neither Custodian nor any Fund shall have any duties or responsibilities whatsoever except such duties and responsibilities as are specifically set forth in this Agreement.

ARTICLE IX TERMINATION

1. Either of the parties hereto may terminate this Agreement by giving to the other party a notice in writing specifying the date of such termination, which shall be not less than sixty (60) days after the date of giving of such notice. In the event such notice is given by a Fund, it shall be accompanied by a copy of a resolution of the board of trustees of such Fund, certified by the Secretary or any Assistant Secretary, electing to terminate this Agreement and designating a successor custodian or custodians, each of which shall be a bank or trust company having not less than \$2,000,000 aggregate capital, surplus and undivided profits. In the event such notice is given by Custodian, the Fund shall, on or before the termination date, deliver to Custodian a copy of a resolution of the board of trustees of the Fund, certified by the Secretary or any Assistant Secretary, designating a successor custodian or custodians. In the absence of such designation by the Fund, Custodian may designate a successor custodian which shall be a bank or trust company having not less than \$2,000,000 aggregate capital, surplus and undivided profits, and which shall be satisfactory to the Funds. Upon the date set forth in such notice, this Agreement shall terminate with respect to the affected Fund(s), and Custodian shall upon receipt of a notice of acceptance by the successor custodian on that date deliver directly to the successor custodian all Securities and cash then owned by the Fund(s) and held by it as Custodian, after deducting all fees, expenses and other amounts for the payment or reimbursement of which it shall then be entitled.

2. If a successor custodian is not designated by the Fund or Custodian in accordance with the preceding section, the Fund shall upon the date specified in the notice of termination of this Agreement and upon the delivery by Custodian of all Securities (other than Securities which cannot be delivered to the Fund) and cash then owned by the Fund be deemed to be its own custodian and Custodian shall thereby be relieved of all duties and responsibilities pursuant to this Agreement, other than the duty with respect to Securities which cannot be delivered to the Fund to hold such Securities hereunder in accordance with this Agreement.

ARTICLE X MISCELLANEOUS

1. Each Fund agrees to furnish to Custodian a new Certificate of Authorized Persons in the event of any change in the then present Authorized Persons. Until such new Certificate is received, Custodian shall be fully protected in acting upon Certificates, Instructions or Oral Instructions of such present Authorized Persons.

2. Any notice or other instrument in writing, authorized or required by this Agreement to be given to Custodian, shall be sufficiently given if addressed to Custodian and received by it at its offices at 100 Church Street, New York, New York 10286, or at such other place as Custodian may from time to time designate in writing.

3. Any notice or other instrument in writing, authorized or required by this Agreement to be given to the Fund shall be sufficiently given if addressed to the Fund and received by it at its offices at Attn.: Assistant Treasurer, The Vanguard Group, Inc., P.O. Box 2600, Valley Forge, Pennsylvania 19482, or at such other place as the Fund may from time to time designate in writing.

4. Each and every right granted to a party hereunder or under any other document delivered hereunder or in connection herewith, or allowed it by law or equity, shall be cumulative and may be exercised from time to time. No failure on the part of either party to exercise, and no delay in exercising, any right will operate as a waiver thereof, nor will any single or partial exercise by either party of any right preclude any other or future exercise thereof or the exercise of any other right.

5. In case any provision in or obligation under this Agreement shall be invalid, illegal or unenforceable in any exclusive jurisdiction, the validity, legality and enforceability of the remaining provisions shall not in any way be affected thereby. This Agreement, may not be amended or modified in any manner except by a written agreement executed by both parties, except that any amendment to the Schedule I hereto need be signed only by the Fund and any amendment to Appendix I hereto need be signed only by Custodian. This Agreement shall extend to and shall be binding upon the parties hereto, and their respective successors and assigns; provided, however, that this Agreement shall not be assignable by either party without the written consent of the other.

6. This Agreement shall be construed in accordance with the substantive laws of the State of New York, without regard to conflicts of laws principles thereof. The Fund and Custodian hereby consent to the jurisdiction of a federal court situated in New York City, New York in connection with any dispute arising hereunder. Each Fund hereby irrevocably waives, to the fullest extent permitted by applicable law, any objection which it may now or hereafter have to the laying of venue of any such proceeding brought in such a court and any claim that such proceeding brought in such a court has been brought in an inconvenient forum.] Each Fund and Custodian each hereby irrevocably waives any and all rights to trial by jury in any legal proceeding arising out of or relating to this Agreement.


7. This Agreement is executed on behalf of the Board of Trustees of each Fund as Trustees and not individually and the obligations of this Agreement are not binding upon any of the Trustees or shareholders individually but are binding only upon the assets and property of such Funds; further, the assets of a particular Series of such Fund shall under no circumstances be charged with liabilities attributable to any other Series of such Fund and that all persons extending credit to, or contracting with or having any claim against a particular Series of such Fund shall look only to the assets of that particular Series for payment of such credit, contract or claim.

8. The parties hereto agree that each shall treat confidentially the terms and conditions of this Agreement and all information provided by each party to the other regarding its business and operations. All confidential information provided by a party hereto shall be used by any other party hereto solely for the purpose of rendering or obtaining services pursuant to this Agreement and, except as may be required in carrying out this Agreement, shall not be disclosed to any third party without the prior consent of such providing party. The foregoing shall not be applicable to any information that is publicly available when provided or thereafter becomes publicly available other than through a breach of this Agreement, or that is required to be disclosed by or to any regulatory authority, any external or internal accountant, auditor or counsels of the parties hereto, by judicial or administration process or otherwise by applicable law, or to any disclosure made by a party if such party's counsel has advised that such party could be liable under any applicable law or any judicial or administrative order or process for a failure to make such disclosure.

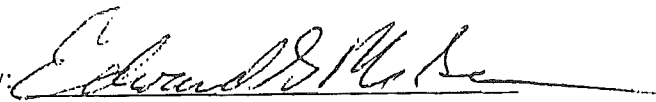
9. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but such counterparts shall, together, constitute only one instrument.

IN WITNESS WHEREOF, the Funds and Custodian have caused this Agreement to be executed by their respective officers, thereunto duly authorized, as of the day and year first above written.

VANGUARD FUNDS

By: 
ROBERT SNOW 6/19/2001
Title: Assistant Treasurer

THE BANK OF NEW YORK

By: 
Title: **EDWARD G. MCGANN**
VICE PRESIDENT

SCHEDULE II

Fund: Vanguard Admiral Funds

Series/Tax Identification No.: Vanguard Admiral Treasury Money Market Fund/
23-2696041

Fund: Vanguard Fixed Income Securities Funds

Series/Tax Identification No.: Vanguard Intermediate-Term Corporate Fund/
23-2735379

Vanguard Intermediate-Term Treasury Fund/
23-2659568

Vanguard Long-Term Treasury Fund/23-2439151

Vanguard Short-Term Corporate Fund/23-2439153

Vanguard Short-Term Federal Fund/23-2483049

Vanguard Short-Term Treasury Fund/23-2659567

Fund: Vanguard Horizon Funds

Series/Tax Identification No.: Vanguard Capital Opportunity Fund/23-2801528

Vanguard Strategic Equity Fund/23-2787277

Fund: Vanguard Money Market Reserves

Series/Tax Identification No.: Vanguard Prime Money Market Fund/23-6607979

Vanguard Federal Money Market Fund/23-2439136

Fund: Vanguard PRIMECAP Fund/23-2311358

Fund: Vanguard Treasury Fund

Series/Tax Identification No.: Vanguard Treasury Money Market Fund/
23-2439140

Fund: Vanguard Variable Insurance Funds

Series/Tax Identification No.: Growth Portfolio/23-2719785

Money Market Portfolio/23-2585135

Short-Term Corporate Portfolio/23-2980466

Fund: Vanguard Whitehall Funds

Series/Tax Identification No.: Vanguard Selected Value Fund/23-2827110

APPENDIX I

THE BANK OF NEW YORK

ON-LINE COMMUNICATIONS SYSTEM (THE "SYSTEM")

TERMS AND CONDITIONS

1. License; Use. Upon delivery to the Funds of software enabling the Funds to obtain access to the System (the "Software"), Custodian grants to each Fund a personal, nontransferable and nonexclusive license to use the Software solely for the purpose of transmitting Instructions, receiving reports, making inquiries or otherwise communicating with Custodian in connection with the Account(s). Each Fund shall use the Software solely for its own internal and proper business purposes and not in the operation of a service bureau. Except as set forth herein, no license or right of any kind is granted to the Funds with respect to the Software. Each Fund acknowledges that Custodian and its suppliers retain and have title and exclusive proprietary rights to the Software, including any trade secrets or other ideas, concepts, know-how, methodologies, or information incorporated therein and the exclusive rights to any copyrights, trademarks and patents (including registrations and applications for registration of either), or other statutory or legal protections available in respect thereof. Each Fund further acknowledges that all or a part of the Software may be copyrighted or trademarked (or a registration or claim made therefor) by Custodian or its suppliers. No Fund shall take any action with respect to the Software inconsistent with the foregoing acknowledgments, nor shall any Fund attempt to decompile, reverse engineer or modify the Software. No Fund may copy, sell, lease or provide, directly or indirectly, any of the Software or any portion thereof to any other person or entity without Custodian's prior written consent. No Fund may remove any statutory copyright notice or other notice included in the Software or on any media containing the Software. Each Fund shall reproduce any such notice on any reproduction of the Software and shall add any statutory copyright notice or other notice to the Software or media upon Custodian's request.

2. Equipment. Each Fund shall obtain and maintain at its own cost and expense all equipment and services, including but not limited to communications services, necessary for it to utilize the Software and obtain access to the System, and Custodian shall not be responsible for the reliability or availability of any such equipment or services. Custodian agrees to provide reasonable training, instruction manuals and access to Custodian's "help desk" in connection with each Fund's user support necessary to use the Software. At a Fund's request, Custodian agrees to permit reasonable testing of the Software by any Fund.

3. Proprietary Information. The Software, any data base (other than databases relating solely to the assets of a Fund and transactions with respect thereto) and

any proprietary data, processes, information and documentation made available to the Fund (other than which are or become part of the public domain or are legally required to be made available to the public) (collectively, the "Information"), are the exclusive and confidential property of Custodian or its suppliers. Each Fund shall keep the Information confidential by using the same care and discretion that each Fund uses with respect to its own confidential property and trade secrets, but not less than reasonable care. Upon termination of the Agreement or the Software license granted herein for any reason, the Funds shall return to Custodian any and all copies of the Information which are in their possession or under their control.

4. Indemnification. Custodian will indemnify and hold harmless the Funds with respect to any liability, damages, loss or claim incurred by or brought against any Fund by reason of any claim or infringement against any patent, copyright, license or other property right arising out of or by reason of a Fund's use of the Software in the form provided under this Appendix. Custodian at its own expense will defend such action or claim brought against a Fund to the extent that it is based on a claim that the Software in the form provided by Custodian infringes any patents, copyrights, license or other property right, provided that Custodian is provided with reasonable notice of such claim, provided that the Fund has not settled, compromised or confessed any such claim without the Custodian's written consent, in which event Custodian shall have no liability or obligation hereunder, and provided Fund cooperates with and assists Custodian in the defense of such claim. Custodian shall have the right to control the defense of all such claims, lawsuits and other proceedings. If, as a result of any claim of infringement against any patent, copyright, license or other property right, Custodian is enjoined from using the Software, or if Custodian believes that the System is likely to become the subject of a claim of infringement, Custodian may in its sole discretion either (a) at its expense procure the right for the Funds to continue to use the Software, or (b) replace or modify the Software so as to make it non-infringing, or (c) may discontinue the license granted herein upon written notice to the Funds.

5. Modifications. Custodian reserves the right to modify the Software from time to time at its own expense and each Fund shall install new releases of the Software as Custodian may direct. Each Fund agrees not to modify or attempt to modify the Software without Custodian's prior written consent. Each Fund acknowledges that any modifications to the Software, whether by a Fund or Custodian and whether with or without Custodian's consent, shall become the property of Custodian.

6. NO REPRESENTATIONS OR WARRANTIES. CUSTODIAN AND ITS MANUFACTURERS AND SUPPLIERS MAKE NO WARRANTIES OR REPRESENTATIONS WITH RESPECT TO THE SOFTWARE, SERVICES OR ANY DATABASE, EXPRESS OR IMPLIED, IN FACT OR IN LAW, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. EACH FUND ACKNOWLEDGES THAT THE

SOFTWARE, SERVICES AND ANY DATABASE ARE PROVIDED "AS IS." IN NO EVENT SHALL CUSTODIAN OR ANY SUPPLIER BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT, INDIRECT SPECIAL, OR CONSEQUENTIAL, WHICH A FUND MAY INCUR IN CONNECTION WITH THE SOFTWARE, SERVICES OR ANY DATABASE, EVEN IF CUSTODIAN OR SUCH SUPPLIER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL CUSTODIAN OR ANY SUPPLIER BE LIABLE FOR ACTS OF GOD, MACHINE OR COMPUTER BREAKDOWN OR MALFUNCTION, INTERRUPTION OR MALFUNCTION OF COMMUNICATION FACILITIES, LABOR DIFFICULTIES OR ANY OTHER SIMILAR OR DISSIMILAR CAUSE BEYOND THEIR REASONABLE CONTROL.

7. Security; Reliance; Unauthorized Use. The Fund will cause all persons utilizing the Software and System to treat all applicable user and authorization codes, passwords and authentication keys with extreme care, and it will establish internal control and safekeeping procedures to restrict the availability of the same to persons duly authorized to give Instructions. Custodian is hereby irrevocably authorized to act in accordance with and rely on Instructions received by it through the System. Each Fund acknowledges that it is its sole responsibility to assure that only persons duly authorized use the System and that Custodian shall not be responsible or liable for any unauthorized use thereof.

8. System Acknowledgments. Custodian shall acknowledge through the System its receipt of each transmission communicated through the System, and in the absence of such acknowledgment Custodian shall not be liable for any failure to act in accordance with such transmission and a Fund may not claim that such transmission was received by Custodian.

9. EXPORT RESTRICTIONS. EXPORT OF THE SOFTWARE IS PROHIBITED BY UNITED STATES LAW. THE FUNDS MAY NOT UNDER ANY CIRCUMSTANCES RESELL, DIVERT, TRANSFER, TRANSSHIP OR OTHERWISE DISPOSE OF THE SOFTWARE (IN ANY FORM) IN OR TO ANY OTHER COUNTRY. IF CUSTODIAN DELIVERED THE SOFTWARE TO THE FUNDS OUTSIDE OF THE UNITED STATES, THE SOFTWARE WAS EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORTER ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW IS PROHIBITED. Each Fund hereby authorizes Custodian to report its name and address to government agencies to which Custodian is required to provide such information by law.

10. ENCRYPTION. Each Fund acknowledges and agrees that encryption may not be available for every communication through the System, or for all data. Each Fund agrees that Custodian may deactivate any encryption features at any time, without notice or liability to the Funds, for the purpose of repairing or troubleshooting the

System or the Software. Custodian shall promptly advise each Fund whenever Custodian has deactivated any encryption features. Custodian also may deactivate any encryption features without liability, for the purpose of scheduled maintenance, so long as it provides reasonable advance notice to the Funds.

SCHEDULE II – AMENDMENT #13

The following is an amended and restated Schedule II (“Amendment”) to the Amended and Restated Custody Agreement, dated June 19, 2001 (the “Agreement”), by and between The Bank of New York Mellon (previously The Bank of New York) (“Custodian”) and each open-end management investment company listed on Schedule II thereto (each, a “Fund”). This Amendment serves to update Schedule II. Custodian and the Funds hereby agree that all of the terms and conditions as set forth in the Agreement are hereby incorporated by reference with respect to the Funds listed below.

Schedule II is hereby amended as follows:

Fund: Vanguard Admiral Funds

Series/Tax Identification No.: Vanguard Treasury Money Market Fund/23-2696041

Fund: Vanguard Chester Funds

Series/Tax Identification No.: Vanguard PRIMECAP Fund/23-2311358

Fund: Vanguard CMT Funds

Series/Tax Identification No.: Vanguard Market Liquidity Fund/20-0961056

Fund: Vanguard Fenway Funds

Series/Tax Identification No.: Vanguard PRIMECAP Core Fund/20-1689237

Fund: Vanguard Fixed Income Securities Funds

Series/Tax Identification No.: Vanguard Intermediate-Term Investment-Grade Fund/23-2735379

Vanguard Intermediate-Term Treasury Fund/23-2659568

Vanguard Long-Term Treasury Fund/23-2439151

Vanguard Short-Term Investment-Grade Fund/23-2439153

Vanguard Short-Term Federal Fund/23-2483049

Vanguard Short-Term Treasury Fund/23-2659567

Fund: Vanguard Horizon Funds

Series/Tax Identification No.: Vanguard Capital Opportunity Fund/23-2801528

Vanguard Strategic Equity Fund/23-2787277

Vanguard Strategic Small-Cap Equity Fund/20-4234046

Fund: Vanguard Malvern Funds

Series/Tax Identification No.: Vanguard Core Bond Fund/81-1029058

Vanguard Emerging Markets Bond Fund/81-1040527

Fund: Vanguard Money Market Reserves

Series/Tax Identification No.: Vanguard Prime Money Market Fund/23-6607979

Vanguard Federal Money Market Fund/23-2439136

Fund: Vanguard Quantitative Funds

Series/Tax Identification No.: Vanguard Structured Large-Cap Equity Fund/20-4457289

Vanguard Structured Broad Market Fund/20-5380815

Fund: Vanguard Scottsdale Funds

Series/Tax Identification No.: Vanguard Explorer Value Fund/27-1663550

Vanguard Russell 1000 Index Fund/27-2939873

Vanguard Russell 1000 Value Index Fund/27-2939962

Vanguard Russell 1000 Growth Index Fund/27-2940030

Vanguard Russell 2000 Index Fund/27-2940100

Vanguard Russell 2000 Value Index Fund/27-2940202

Vanguard Russell 2000 Growth Index Fund/27-2940282

Vanguard Russell 3000 Index Fund/27-2940415

Fund: Vanguard Trustees' Equity Fund

Series/Tax Identification No.: Vanguard Emerging Markets Select Stock Fund/45-1137578

Fund: Vanguard Variable Insurance Funds

Series/Tax Identification No.: Capital Growth Portfolio/55-0795775

Growth Portfolio/23-2719785

Money Market Portfolio/23-2585135

Short-Term Investment-Grade Portfolio/23-2980466

Fund: Vanguard Whitehall Funds

Series/Tax Identification No.: Vanguard Global Minimum Volatility Fund/46-9759331

Vanguard Selected Value Fund/23-2827110

Vanguard High Dividend Yield Index Fund/20-5596733

Vanguard International Dividend Appreciation Index Fund/
47-5192304

Vanguard International High Dividend Yield Index Fund/
47-5195802

AGREED TO as of the _____ day of February, 2016, BY:

THE BANK OF NEW YORK MELLON

Each Fund Listed on Schedule II

By: _____

By: _____

Name:

Name: Thomas J. Higgins

Title:

Title: Chief Financial Officer

SCHEDULE II – AMENDMENT #13

The following is an amended and restated Schedule II (“Amendment”) to the Amended and Restated Custody Agreement, dated June 19, 2001 (the “Agreement”), by and between The Bank of New York Mellon (previously The Bank of New York) (“Custodian”) and each open-end management investment company listed on Schedule II thereto (each, a “Fund”). This Amendment serves to update Schedule II. Custodian and the Funds hereby agree that all of the terms and conditions as set forth in the Agreement are hereby incorporated by reference with respect to the Funds listed below.

Schedule II is hereby amended as follows:

Fund: Vanguard Admiral Funds

Series/Tax Identification No.: Vanguard Treasury Money Market Fund/23-2696041

Fund: Vanguard Chester Funds

Series/Tax Identification No.: Vanguard PRIMECAP Fund/23-2311358

Fund: Vanguard CMT Funds

Series/Tax Identification No.: Vanguard Market Liquidity Fund/20-0961056

Fund: Vanguard Fenway Funds

Series/Tax Identification No.: Vanguard PRIMECAP Core Fund/20-1689237

Fund: Vanguard Fixed Income Securities Funds

Series/Tax Identification No.: Vanguard Intermediate-Term Investment-Grade Fund/23-2735379

Vanguard Intermediate-Term Treasury Fund/23-2659568

Vanguard Long-Term Treasury Fund/23-2439151

Vanguard Short-Term Investment-Grade Fund/23-2439153

Vanguard Short-Term Federal Fund/23-2483049

Vanguard Short-Term Treasury Fund/23-2659567

Fund: Vanguard Horizon Funds

Series/Tax Identification No.: Vanguard Capital Opportunity Fund/23-2801528

Vanguard Strategic Equity Fund/23-2787277

Vanguard Strategic Small-Cap Equity Fund/20-4234046

Fund: Vanguard Malvern Funds

Series/Tax Identification No.: Vanguard Core Bond Fund/81-1029058

Vanguard Emerging Markets Bond Fund/81-1040527

Fund: Vanguard Money Market Reserves

Series/Tax Identification No.: Vanguard Prime Money Market Fund/23-6607979

Vanguard Federal Money Market Fund/23-2439136

Fund: Vanguard Quantitative Funds

Series/Tax Identification No.: Vanguard Structured Large-Cap Equity Fund/20-4457289

Vanguard Structured Broad Market Fund/20-5380815

Fund: Vanguard Scottsdale Funds

Series/Tax Identification No.: Vanguard Explorer Value Fund/27-1663550

Vanguard Russell 1000 Index Fund/27-2939873

Vanguard Russell 1000 Value Index Fund/27-2939962

Vanguard Russell 1000 Growth Index Fund/27-2940030

Vanguard Russell 2000 Index Fund/27-2940100

Vanguard Russell 2000 Value Index Fund/27-2940202

Vanguard Russell 2000 Growth Index Fund/27-2940282

Vanguard Russell 3000 Index Fund/27-2940415

Fund: Vanguard Trustees' Equity Fund

Series/Tax Identification No.: Vanguard Emerging Markets Select Stock Fund/45-1137578

Fund: Vanguard Variable Insurance Funds

Series/Tax Identification No.: Capital Growth Portfolio/55-0795775

Growth Portfolio/23-2719785

Money Market Portfolio/23-2585135

Short-Term Investment-Grade Portfolio/23-2980466

Fund: Vanguard Whitehall Funds

Series/Tax Identification No.: Vanguard Global Minimum Volatility Fund/46-9759331

Vanguard Selected Value Fund/23-2827110

Vanguard High Dividend Yield Index Fund/20-5596733

Vanguard International Dividend Appreciation Index Fund/
47-5192304

Vanguard International High Dividend Yield Index Fund/
47-5195802

AGREED TO as of the _____ day of February, 2016, BY:

THE BANK OF NEW YORK MELLON

Each Fund Listed on Schedule II

By: _____

By: _____

Name:

Name: Thomas J. Higgins

Title:

Title: Chief Financial Officer