



Oberweis Securities, Inc.

Form CRS – Customer Relationship Summary
June 30, 2020

Item 1. Introduction

Oberweis Securities, Inc. (“OSI”) is registered with the Securities and Exchange Commission (“SEC”) as a broker-dealer and is a member of the Financial Industry Regulatory Authority (“FINRA”) and the Securities Investor Protection Corporation (“SIPC”) (for more information visit www.finra.org; also brokercheck.finra.org). You should be aware that brokerage and investment advisory services and fees differ and it is important for you to understand the differences. Free and simple tools are available to research firms and financial professionals at Investor.gov/CRS, which also provides educational materials about broker-dealers, investment advisers and investing.

Item 2. Relationships and Services

What investment services and advice can you provide me?

Services: OSI is a general securities broker-dealer offering a diversified and comprehensive array of securities products and services that can assist our retail investors in meeting their individual objectives, goals and risk tolerance. OSI offers its services through various types of accounts for retail investors such as individual, joint, trust, custodial and retirement accounts. Retail investors will have access to buying and selling listed stocks, OTC stocks, options, mutual funds, bonds and certificates of deposits.

In addition, OSI offers recommendations to retail investors through OSI’s Financial Consultants. There are no material limitations on the securities or investment strategies involving securities that may be recommended to you provided recommendations are consistent with the above and in your best interest.

Monitoring: OSI does not provide account monitoring services and does not monitor your investments.

Requirements to Open and Maintain an Account: OSI has a \$50,000 account minimum requirement to open or maintain an account held through OSI.

ADDITIONAL INFORMATION: Additional information can be found at www.oberweis.net/resources.

Conversation Starter: *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?*

Item 3. Fees, Costs, Conflicts and Standard of Conduct

What fees will I pay?

Principal Fees and Costs: OSI Financial Consultants utilize their own commission fee schedule. Retail investors will be charged a transaction-based commission on trades when OSI acts in an agency capacity in effecting such transactions, and the commission is generally based on the size of the order, the type and value of the security, the type of transaction and the market where the trade is executed. Markups and markdowns apply to transactions in fixed income investments when OSI acts in a principal capacity in effecting such transactions. Specific information regarding trades is provided to you in trade confirmations pursuant to regulatory obligations after execution of the trades.

Fees for mutual fund transactions, such as sales loads/charges and what they are based on, e.g., the mutual fund family, class type and amount invested and ongoing mutual fund operating costs (such as investment advisory fees for managing the fund’s holdings and marketing and distribution expenses, e.g., 12b-1 fees) imposed by mutual funds are described in the fund prospectus. The prospectus is delivered to you after the transactions pursuant to regulatory obligations and in accordance with the delivery method you have selected, such as by mail or electronically.

Other Fees and Costs: You are solely responsible for paying all fees and charges by National Financial Services LLC (“NFS”), OSI’s clearing firm, which serves as custodian for OSI’s retail investors’ accounts held at NFS. Such account-based fees and costs are described further in a Schedule of Fees provided to you at account opening. You would be charged more when there are more trades in your account and OSI may therefore have an incentive to encourage you to trade often.

ADDITIONAL INFORMATION: 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 are paying. For more information, please visit www.oberweis.net/resources.

Conversation Starter: *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?*

Standard of Conduct/Conflicts of Interest

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?

When we provide you with a recommendation, we have to act in your best interest and not put our interest ahead of yours. At the same time, 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 recommendations we provide you. Here are some examples to help you understand what this means. The recommendation of a mutual fund that pays OSI sales loads and 12b-1 fees constitutes a conflict of interest in that it gives OSI an incentive to recommend such mutual funds. Also, when OSI retail investors invest in The Oberweis Funds (the “Funds”), a no-load mutual fund managed by Oberweis Asset Management, Inc. (“OAM”), an affiliate of OSI registered as an investment adviser with the SEC, OAM receives fees for advisory and management services provided to the Funds based on the amount of assets in the Funds. In addition, OSI, as principal distributor of the Funds, receives a 12b-1 distribution and shareholder servicing fee, at the annual rate of .25% of the asset value of the Funds’ Investor Class Shares. As a result, OSI may therefore have an incentive to recommend that you invest in the Funds.

Further, because OSI receives markups and markdowns applied to purchase and sale transactions, respectively, in fixed income investments when OSI acts in a principal capacity, OSI may therefore have an incentive to encourage you to trade such products often.

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

ADDITIONAL INFORMATION: For more information about our firm’s conflicts of interest, please see www.oberweis.net/resources.

How do your financial professionals make money? OSI Financial Consultants receive commission-based compensation on a transactional basis including sales loads and 12b-1 fees for mutual fund sales. OSI Financial Consultants are responsible for seeking new clients, establishing new accounts and reporting to clients and receive compensation for their services. In addition, OSI Financial Consultants solicit investment management business for OAM and receive solicitors’ fees from OAM for the referral of advisory clients, which are based on a percentage of advisory fees received by OAM from such referrals. OAM also pays OSI a percentage of the advisory fees received from advisory clients referred by OSI Financial Consultants.

Item 4. Disciplinary History

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

Yes. For more information, visit <https://brokercheck.finra.org/firm/summary/42060>. Please visit Investor.gov/CRS for a free and simple search to research us and our financial professionals.

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

Item 5. Additional Information

If you have any questions about our brokerage services or if you wish to request a copy of the relationship summary, please contact us at www.oberweis.net. You can also call us at 630-577-2300 for up-to-date information and request a copy of the relationship summary.

Conversation Starter: *Who is my primary contact person? Is he or she a representative of an investment adviser or broker-dealer? Who can I talk to if I have concerns about how this person is treating me?*

Account Number

To be retained by NFS

Margin Account Privileges Supplemental Application for NFS

Use this form to apply for margin trading on an existing brokerage account. Complete all pages of this form and sign the Disclosure of Credit Terms. In order for your application to be considered, you must return the Disclosure of Credit Terms marked NFS copy and keep the customer copy. Type on screen or fill in using CAPITAL letters and black ink. If you need more room for information or signatures, use a copy of the relevant page.

1. Account Owner(s)

Provide all of the Account Owner Names that appear on the brokerage account.	First Name	Middle Name	Last Name
	First Name	Middle Name	Last Name
	First Name	Middle Name	Last Name
Entity Name			

2. Acknowledgements

Check all that apply if you are a control person or affiliate or an immediate family/ household member of a control person or affiliate of a publicly traded company under SEC Rule 144 (this would include, but is not limited to, a director, 10% shareholder, policy-making officer, and members of the board of directors).	<input type="checkbox"/> Account Owner 1	Company Name	CUSIP or Symbol
	<input type="checkbox"/> Account Owner 2		
	<input type="checkbox"/> Account Owner 3	Company Name	CUSIP or Symbol
	<input type="checkbox"/> Account Owner 4	Company Name	CUSIP or Symbol

For Internal Use Only		
Print Principal Approval Name	Signature	Date MM DD YYYY
Print Registered Representative Name	Signature	Date MM DD YYYY

Note to Broker/Dealer: Return pages 1-4 and the signed portion of the Disclosure of Credit Terms which is marked "NFS Copy."

Margin credit extended by National Financial Services LLC, Member NYSE, SIPC 1.903621.105 - 534803.6.0 (03/17)



Margin Account Agreement *NFS Copy*

To: Introducing Broker/Dealer: (My "Broker/Dealer") and National Financial Services LLC ("NFS" or "you")

Broker/Dealer

1. I agree as follows with respect to all of my brokerage accounts, in which I have an interest alone or with others, which I have opened or will open in the future, with you through my Broker/Dealer for the purchase and sale of securities. I hereby acknowledge that I have read, understand and agree to the terms set forth below. Upon acceptance of my application(s), I understand my Broker/Dealer will maintain an account for me at NFS, and my Broker/Dealer may buy or sell securities or other products according to my instructions. All decisions relating to my investment or trading activity shall be made by me, my Broker/Dealer or my duly authorized representative. Any information provided in this brokerage account application and agreement will be subject to verification, and I authorize you or my Broker/Dealer to obtain a credit report about me at any time. Upon written request, NFS or my Broker/Dealer will provide the name and address of the credit reporting agency used. I authorize NFS and my Broker/Dealer to exchange credit information about me. My Broker/Dealer and you also may tape record conversations with me in order to verify data concerning any transactions I request, and I consent to such recording. I also understand that my brokerage account(s) is carried by NFS, and that all terms of this Agreement also apply between me and NFS. I have carefully examined my financial resources, investment objectives, tolerance for risk along with the terms of the margin agreement and have determined that margin financing is appropriate for me. I understand that investing on margin involves the extension of credit to me and that my financial exposure could exceed the value of securities in my account. I agree to notify my Broker/Dealer in writing of any material changes in my financial circumstances or investment objectives. NFS may use certain securities in my account in connection with short sales and may receive compensation in connection therewith. For the purposes of this Agreement, assets in any FDIC-Insured Bank Deposit Sweep Program are deemed to be part of your brokerage account and are treated as cash deposits.
2. I am of legal age in the state in which I reside and represent that, except as otherwise disclosed to you in writing, I am not an employee of any Exchange or of a Member Firm of any Exchange or the Financial Industry Regulatory Authority (FINRA) and that I will promptly notify you if I become so employed. I am not employed as a director, 10% shareholder, or policy-making executive officer of a publicly traded company and I will promptly notify you if I become so employed.
3. All transactions are subject to the constitution, rules, regulations, customs, and usages of the exchange, market or clearinghouse where executed, as well as to any applicable federal or state laws, rules and regulations.
4. Any credit balances, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, or any amendment thereto, securities, assets or related contracts, and all other property in which I may have an interest held by you or carried for my brokerage accounts shall be subject to a general lien for the discharge of my obligations to you (including unmatured and contingent obligations) and you may sell, transfer, convert, withdraw, or assign such assets or property to satisfy a margin deficiency or other obligation whether or not you have made advances with respect to such property. Without notice to me, such property may be carried in your general loans, and all your securities may be pledged, repledged, hypothecated or rehypothecated, separately or in common with other securities or any other property for the sum due to you or for a greater sum, and without retaining in your possession and control for delivery a like amount of similar securities or other property. At any time in your discretion, you may, without notice to me, apply and/or transfer any securities, related contracts, cash or any other property, interchangeably between my brokerage accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, and any amendment thereto, whether individual or joint, from any of my brokerage accounts to any brokerage account guaranteed by me. You are specifically authorized to transfer to my cash account, on the settlement day following a purchase made in that brokerage account, excess funds available in any of my brokerage accounts, including, but not limited

to, any free balances in any margin account, sufficient to make full payment of this cash purchase. I agree that any debit occurring in any of my brokerage accounts may be transferred by you at your option to my margin account. In return for your extension or maintenance of credit in connection with my account, I acknowledge that the securities in my margin account, together with all attendant rights of ownership, may be lent to you or lent by you to others. In connection with such loans and in connection with securities loans made to me to facilitate short sales, you may receive and retain certain benefits to which I will not be entitled. Such loans may limit, in whole or in part, my ability to exercise voting rights and/or my entitlement to interest, dividends, and/or other distributions with respect to the securities lent. I understand that, while a security in my account is lent to you or to others, the borrower or the party to whom the borrower has sold the security may be entitled to interest, dividends, and/or other distributions and I may be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. I understand that substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and that I may incur additional tax liability for substitute payments that I receive. NFS may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, by means of a lottery allocation method. I acknowledge that I am not entitled to any compensation in connection with securities lent from my account or for additional taxes I may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions. With the risk of loss being unlimited with short sales, I am aware of any and all risks associated with short sales. I also understand that my Broker/Dealer reserves the right to pass along any fees associated with short sale transactions and interest related to borrowing of securities to cover short sales to me.

5. I will maintain such margins as you require in your discretion at any time and will pay on demand any debit balance owing on any of my brokerage accounts. If any brokerage account is liquidated in whole or in part by you or me to satisfy the debt, I will be liable to you for any deficiency and shall make payment of such deficiency on demand. Whenever in your discretion you deem it desirable for your protection (and without the necessity of a margin call), including but not limited to extreme market volatility or trading volumes, an instance where a petition in bankruptcy or for the appointment of a receiver is filed by or against me, or an attachment is levied against my brokerage account, or in the event of notice of my death or incapacity, or in compliance with the orders of the Exchange, you may, without prior demand, tender, and without any notice of the time or place of sale, all of which are expressly waived, sell any or all of securities or related contracts that may be in your possession, at your selection, or which you may be carrying for me, or buy any securities, or related contracts relating thereto of which my brokerage account or brokerage accounts may be short, in order to close out in whole or in part any commitment in my behalf. You may also place stop orders with respect of such securities and such sale or purchase be made at your discretion on any exchange including before or after hours markets or other markets where such business is then transacted, or at public auction or private sale, with or without advertising, and neither any demands, calls, tenders or notices which you may make or give in any one or more instances nor any prior course of conduct or dealings between us shall invalidate the aforesaid waivers on my part. You shall have the right to purchase for your own account any or all of the aforesaid property at such sale, discharged of any right of redemption which is hereby waived.
6. In the absence of a specific demand, all transactions in any of my brokerage accounts are to be paid for, securities delivered or required margin deposited, no later than 2 p.m. Eastern Time on the settlement date, and I agree to deliver my securities I have in my possession in sufficient time to be received by my Broker/Dealer one day before settlement date. My Broker/Dealer and NFS reserve the right to cancel or liquidate at my risk any transaction not timely settled. Margin calls are due on the date indicated regardless of the settlement date of the transaction. For most stocks and bonds, the settlement date is the third business day following the trade date. Settlement dates for U.S. government issues vary. Options settle on the next business day. Interest will be charged on any debit balance which remains in my brokerage account past the settlement date as explained in the Disclosure of Credit Terms on Transactions section of this Agreement.
7. My Broker/Dealer or NFS transmits customer orders for execution to various exchanges or market centers based on a number of factors. These include: size of order, trading characteristics of the security,

Margin Account Agreement *NFS Copy*

favorable execution prices (including the opportunity for price improvement), access to reliable market data, availability of efficient automated transaction processing and reduced execution costs through price concessions for the market centers. Certain of the market centers may execute orders at prices superior to the publicly quoted market in accordance with their rules or practices. While a customer may specify that an order be directed to a particular market center for execution,* the order-routing policies, taking into consideration all of the factors listed above, are designed to result in favorable transaction processing for customers.

My Broker/Dealer and NFS receive remuneration, compensation or other consideration for directing customer orders for equity securities to particular broker/dealers or market centers for execution. Such consideration, if any, takes the form of financial credits, monetary payments, or reciprocal business.

***Note:** Orders placed through any telephone, electronic or on-line trading systems cannot specify a particular market center for execution.

8. I agree to be charged interest on any credit you extend to or maintain for me for purchasing, carrying or trading securities. The calculation methodology for the annual rate of interest I will be charged is described in the attached Disclosure of Credit Terms.

Interest on U.S. Dollar balances is calculated monthly according to my average debit balance for the month, and a base rate, set at the discretion of NFS with references to commercially recognizable interest rates, industry conditions regarding the extension of margin credit and general credit conditions. Interest rates will vary according to changes to my average debit balance and my base rate, and therefore may change without notice to me. If rates change during the month, separate charges will be shown for each interest period under the different rate. Interest on International balances is calculated daily according to actual daily debit balances during the month and the interest rate applicable to each currency in the account. Interest rates will vary according to actual daily debit balances and applicable international interest rates, and therefore may change without notice to me. Separate charges will be shown for each currency in the account at the end of the month. Calculated by computer, the interest on combined balances from all cash and margin accounts (except Type 3 Short and Type 9 Income accounts) is arrived at by multiplying the average debit balance for U.S. dollar balances by the effective rate of interest, dividing by 360, and multiplying by the number of days a daily debit balance was maintained during the interest period. Interest from International balances are calculated by multiplying the daily debit of International balances by the effective rate of interest, dividing by 360 and summing for each day a daily debit balance was maintained. You may request additional collateral in the form of marginable securities or cash whenever you deem it necessary or advisable in your sole discretion, or if there is a decline in the market value of securities in the margin account. All assets in any of my brokerage accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, or any amendments thereto, are collateral for debit balances in this brokerage account, and a lien is created by these debits to secure the amount owed you. This means assets in these brokerage accounts can be sold, withdrawn, transferred, or converted by you to redeem or liquidate any debit balances in this brokerage account. You reserve the right to increase maintenance requirements and to request additional collateral at any time at your discretion. The Federal Equal Credit Opportunity Act prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, age (provided the applicant has the capacity to enter into a binding contract); because all or part of the applicant's income derives from a public assistance program, or because the applicant has, in good faith, exercised any right under the Consumer Credit Protection Act. The Federal agency that administers compliance with this law concerning this creditor is: Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549.

9. I agree that, in giving orders to sell, all "short" sale orders will be designated as "short" and all "long" sale orders will be designated as "long" and that the designation of a sell order as "long" is a representation on my part that I own the security and that I have delivered or will deliver by settlement date such security to you.
10. Communications by mail, telegraph, messenger or otherwise sent to me at the address of record listed on the application or any other address I may give my Broker/Dealer in writing, are presumed to be

delivered and received by me, whether actually received or not. A statement of all transactions will be mailed to the address of record, monthly or quarterly, depending on activity. I understand that I should promptly and carefully review the transaction confirmations and periodic brokerage account statements and notify my Broker/Dealer of any errors. Information contained on transaction confirmations and periodic brokerage account statements is conclusive unless I object in writing within five and ten days respectively, after transmitting to me.

11. I am liable for payment upon demand of any debit balance or other obligation owed in any of my accounts or any deficiencies following a whole or partial liquidation, and I agree to satisfy any such demand or obligation. Interest will accrue on any such deficiency at prevailing margin rates until paid. I agree to reimburse my Broker/Dealer and NFS for all reasonable costs and expenses incurred in the collection of any debit balance or unpaid deficiency in any of my brokerage accounts, including, but not limited to, attorneys' fees. By signing this Agreement, I hereby grant to NFS and its affiliates, to secure the payment and performance in full of all of the Obligations (as hereinafter defined), a security interest in and pledge and assign to NFS and its affiliates the following properties, assets and rights, whether now owned or hereafter acquired or arising, whether individually or jointly owned and/or held by me with others, and all proceeds and products thereof (all of the same being hereinafter called the "Property"): any and all securities, other investment properties (including investment company securities and securities accounts), monies, credit balances, assets or related contracts and deposit accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, and any amendment thereto, to the extent any of the foregoing may now or hereafter be (i) held, carried and/or maintained by NFS and/or any of its affiliates, (ii) held, carried or maintained by NFS and/or any of its affiliates through any correspondent broker/dealer of NFS ("broker/dealer"), (iii) in the possession or control of NFS or any of its affiliates for any purpose, including for safekeeping, or (iv) held, carried or maintained or in the possession or control of the Fidelity Group of Funds Fidelity Service Company, Inc., as a transfer agent for the Fidelity Group of Funds or any sub transfer agent of the Fidelity Group of Funds. All terms defined in the Uniform Commercial Code of the Commonwealth of Massachusetts and used herein shall have the same definitions herein as specified therein; however, if a term is defined in Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts differently than in another Article of the Uniform Commercial Code of the Commonwealth of Massachusetts, the term has the meaning specified in Article 9. For purposes hereof, the term "Obligations" shall mean any and all indebtedness, liabilities or other obligations (including unmatured and contingent obligations) now or hereafter owed by me to NFS, any of NFS's affiliates or any broker/dealer, including, but not limited to, any such indebtedness, liabilities or other obligations arising under this Agreement. If a default shall have occurred and be continuing, NFS and its affiliates, without any other notice to or demand upon me, shall have in any jurisdiction in which enforcement hereof is sought, in addition to all other rights and remedies, the rights and remedies of a secured party under Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts and any additional rights and remedies as may be provided to a secured party in any jurisdiction in which Property is located, including, without limitation the right to take possession of the Property. Without limiting the foregoing, I understand that in the event any Obligation remains unpaid after payment is requested of me, NFS shall have the right to sell, liquidate, transfer, withdraw, convert, or assign such Property to satisfy any such Obligation whether or not NFS has made advances with respect to such Property. No further demand or notice shall be required prior to taking such an action. NFS shall have the discretion to determine which Property is to be sold, liquidated, transferred, withdrawn, converted, or assigned. Neither NFS nor any of its affiliates shall be required to marshal any present or future collateral security (including but not limited to the Property) for, or other assurances of payment of, the Obligations or any of them or resort to such collateral security or other assurances of payment in any particular order.

I agree to cooperate with NFS and its affiliates and to execute such further instruments and documents as NFS or its affiliates shall reasonably request to carry out to their satisfaction the transactions contemplated by this Agreement.

Margin Account Agreement *NFS Copy*

12. My Broker/Dealer and NFS are not liable for any losses caused directly or indirectly by government restrictions, exchange or market rulings, suspension of trading, war, strikes or other conditions beyond their control, including, but not limited to, extreme market volatility or trading volumes.
13. No waiver of any provision of this Agreement shall be deemed a waiver of any other provision, nor a continuing waiver to the provision or provisions so waived.
14. No provision of this Agreement can be amended or waived except in writing signed by an officer of NFS. This Agreement will remain in effect until its termination by me is acknowledged in writing by an authorized representative of NFS; or until written notice of termination by you shall have been mailed to me at my address last given to you. I will remain responsible for all charges, debit items, or other transactions initiated or authorized by me, whether arising before or after termination.
15. **This Agreement and its enforcement shall be governed by the laws of the Commonwealth of Massachusetts; shall cover individually and collectively all brokerage accounts that I may maintain with NFS; shall inure to the benefit of my Broker/Dealer's or your successors and assigns whether by merger, consolidation or otherwise and my Broker/Dealer and you may transfer my account to my Broker/Dealer's or your successors and assigns; and shall be binding on my heirs, executors, administrators, successors, and assigns.**
16. If any provision of this Agreement is or at any time should become inconsistent with any present or future law, rule or regulation of any entity having regulatory jurisdiction over it, that provision will be superseded or amended to conform with such law, rule or regulation, but the remainder of this Agreement shall continue and remain in full force and effect notwithstanding any other provisions contained in this Agreement. No provision of this Agreement concerning liens or security interests shall apply to the extent the application would be in conflict with any provisions of ERISA or the Internal Revenue Code or any related rules, regulations, or guidance.
17. If the undersigned shall consist of more than one brokerage account holder, their obligations and liabilities under this Agreement shall be joint and several and may be enforced by my Broker/Dealer or NFS against any or all brokerage account holders.
18. I understand that you may deliver margin calls and other notices to my Broker/Dealer for the sole purpose of collection of my obligations under this Agreement. I agree to the foregoing and further understand that my Broker/Dealer may act on your behalf with respect to margin calls in your discretion.
19. I represent that I have read and understand the Disclosure of Credit Terms on Transactions. I further understand that they may be amended from time to time.

20. Pre-Dispute Arbitration Agreement

This agreement contains a pre-dispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

- (A) 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.
- (B) Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- (C) The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.

- (D) 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.
- (E) The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.
- (F) 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.
- (G) The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this agreement.

All controversies that may arise between me, my Broker/Dealer and NFS concerning any subject matter, issue or circumstance whatsoever (including, but not limited to, controversies concerning any account, order or transaction, or the continuation, performance, interpretation or breach of this or any other agreement between me, my Broker/Dealer and NFS whether entered into or arising before, on or after the date this account is opened) shall be determined by arbitration in accordance with the rules then prevailing of the Financial Industry Regulatory Authority (FINRA) or any United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member, as I may designate. If I designate the rules of a United States self-regulatory organization or United States securities exchange and those rules fail to be applied for any reason, then I shall designate the prevailing rules of any other United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member. If I do not notify you and/or my Broker/Dealer in writing of my designation within five (5) days after such failure or after I receive from you a written demand for arbitration, then I authorize my Broker/Dealer and/or NFS to make such designation on my behalf. The designation of the rules of a United States self-regulatory organization or United States securities exchange is not integral to the underlying agreement to arbitrate. I understand that judgment upon any arbitration award may be entered in any court of competent 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; or (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.

You are hereby authorized to lend, hypothecate or re-hypothecate separately or with the property of others, either to yourselves or to others, any property you may be carrying for me on margin. NFS may use certain securities in my account in connection with short sales and may receive compensation in connection therewith. This authorization shall apply to all my brokerage accounts you carry and shall remain in full force until you receive from my Broker/Dealer written notice of my revocation at your principal offices.

I represent that I have read the terms and conditions concerning this account and agree to be bound by such terms and conditions as currently in effect and as may be amended from time to time. This account is governed by a Pre-Dispute Arbitration Clause which appears in paragraph 20 on pages 4 and 9 of this Agreement. I acknowledge receipt of the Pre-Dispute Arbitration Clause, the Disclosure of Credit Terms on transactions, and Margin Disclosure Statement.

Margin Account Privileges Supplemental Application for NFS

Account Number

To be retained by Broker/Dealer

1. Account Owner(s)

Provide all of the Account Owner Names that appear on the brokerage account.

First Name	Middle Name	Last Name
First Name	Middle Name	Last Name
First Name	Middle Name	Last Name
Entity Name		

2. Financial Information *Required by industry regulations to obtain this information.*

For joint account, check your combined income.

Annual Income <i>From all sources</i>	Estimated Net Worth <i>Excluding primary residence</i>	Investable Assets <i>Including cash and securities</i>	Federal Tax Bracket
<input type="checkbox"/> Under \$25,000	<input type="checkbox"/> Under \$50,000	<input type="checkbox"/> Under \$50,000	<input type="checkbox"/> 0%–15%
<input type="checkbox"/> \$25,000–\$50,000	<input type="checkbox"/> \$50,000–\$100,000	<input type="checkbox"/> \$50,000–\$100,000	<input type="checkbox"/> 25% to 27½%
<input type="checkbox"/> \$50,000–\$100,000	<input type="checkbox"/> \$100,000–\$500,000	<input type="checkbox"/> \$100,000–\$500,000	<input type="checkbox"/> Over 27½%
<input type="checkbox"/> Over \$100,000	<input type="checkbox"/> Over \$500,000	<input type="checkbox"/> Over \$500,000	
\$ _____	\$ _____	\$ _____	

3. Affiliations

Check the appropriate box if any of these scenarios apply to you.

You are registered with or employed by a Financial Industry Regulatory Authority ("FINRA") member firm ("associated person"), you are the spouse of an associated person, you are a child who resides in the same household or is financially dependent on the associated person, you are related to an associated person who has control over your account or an associated person materially contributes financial support to you and has control over your account, or you are affiliated with or employed by FINRA, any other self-regulatory organization ("SRO") or a municipal securities dealer.

<input type="checkbox"/> Account Owner 1			
Affiliated Entity Name			
Address			
City	State/Province	Zip/Postal Code	Country
<input type="checkbox"/> Account Owner 2			
Affiliated Entity Name			
Address			
City	State/Province	Zip/Postal Code	Country
<input type="checkbox"/> Account Owner 3			
Affiliated Entity Name			
Address			
City	State/Province	Zip/Postal Code	Country
<input type="checkbox"/> Account Owner 4			
Affiliated Entity Name			
Address			
City	State/Province	Zip/Postal Code	Country

Margin Account Agreement *Customer Copy*

To: My Broker/Dealer and National Financial Services LLC ("NFS" or "you") Introducing Broker/Dealer

Broker/Dealer

1. I agree as follows with respect to all of my brokerage accounts, in which I have an interest alone or with others, which I have opened or will open in the future, with you through my Broker/Dealer for the purchase and sale of securities. I hereby acknowledge that I have read, understand and agree to the terms set forth below. Upon acceptance of my application(s), I understand my Broker/Dealer will maintain an account for me at NFS, and my Broker/Dealer may buy or sell securities or other products according to my instructions. All decisions relating to my investment or trading activity shall be made by me, my Broker/Dealer or my duly authorized representative. Any information provided in this brokerage account application and agreement will be subject to verification, and I authorize you or my Broker/Dealer to obtain a credit report about me at any time. Upon written request, NFS or my Broker/Dealer will provide the name and address of the credit reporting agency used. I authorize NFS and my Broker/Dealer to exchange credit information about me. My Broker/Dealer and you also may tape record conversations with me in order to verify data concerning any transactions I request, and I consent to such recording. I also understand that my brokerage account(s) is carried by NFS, and that all terms of this Agreement also apply between me and NFS. I have carefully examined my financial resources, investment objectives, tolerance for risk along with the terms of the margin agreement and have determined that margin financing is appropriate for me. I understand that investing on margin involves the extension of credit to me and that my financial exposure could exceed the value of securities in my account. I agree to notify my Broker/Dealer in writing of any material changes in my financial circumstances or investment objectives. NFS may use certain securities in your account in connection with short sales and may receive compensation in connection therewith. For the purposes of this Agreement, assets in any FDIC-Insured Bank Deposit Sweep Program are deemed to be part of your brokerage account and are treated as cash deposits.
2. I am of legal age in the state in which I reside and represent that, except as otherwise disclosed to you in writing, I am not an employee of any Exchange or of a Member Firm of any Exchange or the Financial Industry Regulatory Authority (FINRA) and that I will promptly notify you if I become so employed. I am not employed as a director, 10% shareholder, or policy-making executive officer of a publicly traded company and I will promptly notify you if I become so employed.
3. All transactions are subject to the constitution, rules, regulations, customs, and usages of the exchange, market or clearinghouse where executed, as well as to any applicable federal or state laws, rules and regulations.
4. Any credit balances, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, or any amendment thereto, securities, assets or related contracts, and all other property in which I may have an interest held by you or carried for my brokerage accounts shall be subject to a general lien for the discharge of my obligations to you (including unmatured and contingent obligations) and you may sell, transfer, convert, withdraw, or assign such assets or property to satisfy a margin deficiency or other obligation whether or not you have made advances with respect to such property. Without notice to me, such property may be carried in your general loans, and all your securities may be pledged, repledged, hypothecated or rehypothecated, separately or in common with other securities or any other property for the sum due to you or for a greater sum, and without retaining in your possession and control for delivery a like amount of similar securities or other property. At any time in your discretion, you may, without notice to me, apply and/or transfer any securities, related contracts, cash or any other property, interchangeably between my brokerage accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, and any amendment thereto, whether individual or joint, from any of my brokerage accounts to any

brokerage account guaranteed by me. You are specifically authorized to transfer to my cash account, on the settlement day following a purchase made in that brokerage account, excess funds available in any of my brokerage accounts, including, but not limited to, any free balances in any margin account, sufficient to make full payment of this cash purchase. I agree that any debit occurring in any of my brokerage accounts may be transferred by you at your option to my margin account. In return for your extension or maintenance of credit in connection with my account, I acknowledge that the securities in my margin account, together with all attendant rights of ownership, may be lent to you or lent by you to others. In connection with such loans and in connection with securities loans made to me to facilitate short sales, you may receive and retain certain benefits to which I will not be entitled. Such loans may limit, in whole or in part, my ability to exercise voting rights and/or my entitlement to interest, dividends, and/or other distributions with respect to the securities lent. I understand that, while a security in my account is lent to you or to others, the borrower or the party to whom the borrower has sold the security may be entitled to interest, dividends, and/or other distributions and I may be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. I understand that substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and that I may incur additional tax liability for substitute payments that I receive. NFS may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, by means of a lottery allocation method. I acknowledge that I am not entitled to any compensation in connection with securities lent from my account or for additional taxes I may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions. With the risk of loss being unlimited with short sales, I am aware of any and all risks associated with short sales. I also understand that my Broker/Dealer reserves the right to pass along any fees associated with short sale transactions and interest related to borrowing of securities to cover short sales to me.

5. I will maintain such margins as you require in your discretion at any time and will pay on demand any debit balance owing on any of my brokerage accounts. If any brokerage account is liquidated in whole or in part by you or me to satisfy the debt, I will be liable to you for any deficiency and shall make payment of such deficiency on demand. Whenever in your discretion you deem it desirable for your protection (and without the necessity of a margin call), including but not limited to extreme market volatility or trading volumes, an instance where a petition in bankruptcy or for the appointment of a receiver is filed by or against me, or an attachment is levied against my brokerage account, or in the event of notice of my death or incapacity, or in compliance with the orders of the Exchange, you may, without prior demand, tender, and without any notice of the time or place of sale, all of which are expressly waived, sell any or all of securities or related contracts that may be in your possession, at your selection, or which you may be carrying for me, or buy any securities, or related contracts relating thereto of which my brokerage account or brokerage accounts may be short, in order to close out in whole or in part any commitment in my behalf. You may also place stop orders with respect of such securities and such sale or purchase be made at your discretion on any exchange including before or after hours markets or other markets where such business is then transacted, or at public auction or private sale, with or without advertising, and neither any demands, calls, tenders or notices which you may make or give in any one or more instances nor any prior notice of conduct or dealings between us shall invalidate the aforesaid waivers on my part. You shall have the right to purchase for your own account any or all of the aforesaid property at such sale, discharged of any right of redemption which is hereby waived.
6. In the absence of a specific demand, all transactions in any of my brokerage accounts are to be paid for, securities delivered or required margin deposited, no later than 2 p.m. Eastern Time on the settlement date, and I agree to deliver my securities I have in my possession in sufficient time to be received by my Broker/Dealer one day before settlement date. My Broker/Dealer and NFS reserve the right to cancel or liquidate at my risk any transaction not timely settled. Margin calls are due on the date indicated regardless of the settlement date of the transaction. For most stocks and bonds, the settlement date is the third business day following the trade date. Settlement dates for U.S. government issues vary. Options settle on

Margin Account Agreement *Customer Copy*

the next business day. Interest will be charged on any debit balance which remains in my brokerage account past the settlement date as explained in the Disclosure of Credit Terms on Transactions section of this Agreement.

7. My Broker/Dealer or NFS transmits customer orders for execution to various exchanges or market centers based on a number of factors. These include: size of order, trading characteristics of the security, favorable execution prices (including the opportunity for price improvement), access to reliable market data, availability of efficient automated transaction processing and reduced execution costs through price concessions for the market centers. Certain of the market centers may execute orders at prices superior to the publicly quoted market in accordance with their rules or practices. While a customer may specify that an order be directed to a particular market center for execution,* the order-routing policies, taking into consideration all of the factors listed above, are designed to result in favorable transaction processing for customers. My Broker/Dealer and NFS receive remuneration, compensation or other consideration for directing customer orders for equity securities to particular broker/dealers or market centers for execution. Such consideration, if any, takes the form of financial credits, monetary payments, or reciprocal business.

***Note:** Orders placed through any telephone, electronic or on-line trading systems cannot specify a particular market center for execution.

8. I agree to be charged interest on any credit you extend to or maintain for me for purchasing, carrying or trading securities. The calculation methodology for the annual rate of interest I will be charged is described in the attached Disclosure of Credit Terms. Interest on U.S. Dollar balances is calculated monthly according to my average debit balance for the month, and a base rate, set at the discretion of NFS with references to commercially recognizable interest rates, industry conditions regarding the extension of margin credit and general credit conditions. Interest rates will vary according to changes to my average debit balance and my base rate, and therefore may change without notice to me. If rates change during the month, separate charges will be shown for each interest period under the different rate. Interest on International balances is calculated daily according to actual daily debit balances during the month and the interest rate applicable to each currency in the account. Interest rates will vary according to actual daily debit balances and applicable international interest rates, and therefore may change without notice to me. Separate charges will be shown for each currency in the account at the end of the month. Calculated by computer, the interest on combined balances from all cash and margin accounts (except Type 3 Short and Type 9 Income accounts) is arrived at by multiplying the average debit balance for U.S. dollar balances by the effective rate of interest, dividing by 360, and multiplying by the number of days a daily debit balance was maintained during the interest period. Interest from International balances are calculated by multiplying the daily debit of International balances by the effective rate of interest, dividing by 360 and summing for each day a daily debit balance was maintained. You may request additional collateral in the form of marginable securities or cash whenever you deem it necessary or advisable in your sole discretion, or if there is a decline in the market value of securities in the margin account. All assets in any of my brokerage accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, or any amendments thereto, are collateral for debit balances in this brokerage account, and a lien is created by these debits to secure the amount owed you. This means assets in these brokerage accounts can be sold, withdrawn, transferred, or converted by you to redeem or liquidate any debit balances in this brokerage account. You reserve the right to increase maintenance requirements and to request additional collateral at any time at your discretion. The Federal Equal Credit Opportunity Act prohibits creditors from discriminating against credit applicants on the basis of race, color, religion, national origin, sex, marital status, age (provided the applicant has the capacity to enter into a binding contract); because all or part of the applicant's income derives from a public assistance program, or because the applicant has, in good faith, exercised any right under the Consumer Credit Protection Act. The Federal agency that administers compliance with this law concerning this creditor is: Securities and Exchange Commission, 100 F Street, NE, Washington, DC 20549.
9. I agree that, in giving orders to sell, all "short" sale orders will be designated as "short" and all "long" sale orders will be designated as "long" and that the designation of a sell order as "long" is a representation on my part that I own the security and that I have delivered or will deliver by settlement date such security to you.
10. Communications by mail, telegraph, messenger or otherwise sent to me at the address of record listed on the application or any other address I may give my Broker/Dealer in writing, are presumed to be delivered and received by me, whether actually received or not. A statement of all transactions will be mailed to the address of record, monthly or quarterly, depending on activity. I understand that I should promptly and carefully review the transaction confirmations and periodic brokerage account statements and notify my Broker/Dealer of any errors. Information contained on transaction confirmations and periodic brokerage account statements is conclusive unless I object in writing within five and ten days respectively, after transmitting to me.
11. I am liable for payment upon demand of any debit balance or other obligation owed in any of my accounts or any deficiencies following a whole or partial liquidation, and I agree to satisfy any such demand or obligation. Interest will accrue on any such deficiency at prevailing margin rates until paid. I agree to reimburse my Broker/Dealer and NFS for all reasonable costs and expenses incurred in the collection of any debit balance or unpaid deficiency in any of my brokerage accounts, including, but not limited to, attorneys' fees. By signing this Agreement, I hereby grant to NFS and its affiliates, to secure the payment and performance in full of all of the Obligations (as hereinafter defined), a security interest in and pledge and assign to NFS and its affiliates the following properties, assets and rights, whether now owned or hereafter acquired or arising, whether individually or jointly owned and/or held by me with others, and all proceeds and products thereof (all of the same being hereinafter called the "Property"): any and all securities, other investment properties (including investment company securities and securities accounts), monies, credit balances, assets or related contracts and deposit accounts, including, but not limited to, any funds held at any Bank pursuant to any FDIC-Insured Bank Deposit Sweep Program, as described in the Customer Brokerage Agreement, and any amendment thereto, to the extent any of the foregoing may now or hereafter be (i) held, carried and/or maintained by NFS and/or any of its affiliates, (ii) held, carried or maintained by NFS and/or any of its affiliates through any correspondent broker/dealer of NFS ("broker/dealer"), (iii) in the possession or control of NFS or any of its affiliates for any purpose, including for safekeeping, or (iv) held, carried or maintained or in the possession or control of the Fidelity Group of Funds Fidelity Service Company, Inc., as a transfer agent for the Fidelity Group of Funds or any sub transfer agent of the Fidelity Group of Funds. All terms defined in the Uniform Commercial Code of the Commonwealth of Massachusetts and used herein shall have the same definitions herein as specified therein; however, if a term is defined in Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts differently than in another Article of the Uniform Commercial Code of the Commonwealth of Massachusetts, the term has the meaning specified in Article 9. For purposes hereof, the term "Obligations" shall mean any and all indebtedness, liabilities or other obligations (including unmatured and contingent obligations) now or hereafter owed by me to NFS, any of NFS's affiliates or any broker/dealer, including, but not limited to, any such indebtedness, liabilities or other obligations arising under this Agreement. If a default shall have occurred and be continuing, NFS and its affiliates, without any other notice to or demand upon me, shall have in any jurisdiction in which enforcement hereof is sought, in addition to all other rights and remedies, the rights and remedies of a secured party under Article 9 of the Uniform Commercial Code of the Commonwealth of Massachusetts and any additional rights and remedies as may be provided to a secured party in any jurisdiction in which Property is located, including, without limitation the right to take possession of the Property. Without limiting the foregoing, I understand that in the event any Obligation remains unpaid after payment is requested of me, NFS shall have the right to sell, liquidate, transfer, withdraw, convert, or assign such Property to satisfy any such Obligation whether or not NFS has made advances with respect to such Property. No further demand or notice shall be required prior to taking such an action. NFS shall have the discretion to determine which Property is to be sold, liquidated, transferred, withdrawn, converted, or assigned. Neither NFS nor any of its affiliates shall be required to marshal any

Margin Account Agreement *Customer Copy*

present or future collateral security (including but not limited to the Property) for, or other assurances of payment of, the Obligations or any of them or resort to such collateral security or other assurances of payment in any particular order. I agree to cooperate with NFS and its affiliates and to execute such further instruments and documents as NFS or its affiliates shall reasonably request to carry out to their satisfaction the transactions contemplated by this Agreement.

12. My Broker/Dealer and NFS are not liable for any losses caused directly or indirectly by government restrictions, exchange or market rulings, suspension of trading, war, strikes or other conditions beyond their control, including, but not limited to, extreme market volatility or trading volumes.

13. No waiver of any provision of this Agreement shall be deemed a waiver of any other provision, nor a continuing waiver to the provision or provisions so waived.

14. No provision of this Agreement can be amended or waived except in writing signed by an officer of NFS. This Agreement will remain in effect until its termination by me is acknowledged in writing by an authorized representative of NFS; or until written notice of termination by you shall have been mailed to me at my address last given to you. I will remain responsible for all charges, debit items, or other transactions initiated or authorized by me, whether arising before or after termination.

15. **This Agreement and its enforcement shall be governed by the laws of the Commonwealth of Massachusetts; shall cover individually and collectively all brokerage accounts that I may maintain with NFS; shall inure to the benefit of my Broker/Dealer's or your successors and assigns whether by merger, consolidation or otherwise and my Broker/Dealer and you may transfer my account to my Broker/Dealer's or your successors and assigns; and shall be binding on my heirs, executors, administrators, successors, and assigns.**

16. If any provision of this Agreement is or at any time should become inconsistent with any present or future law, rule or regulation of any entity having regulatory jurisdiction over it, that provision will be superseded or amended to conform with such law, rule or regulation, but the remainder of this Agreement shall continue and remain in full force and effect notwithstanding any other provisions contained in this Agreement. No provision of this Agreement concerning liens or security interests shall apply to the extent the application would be in conflict with any provisions of ERISA or the Internal Revenue Code or any related rules, regulations, or guidance.

17. If the undersigned shall consist of more than one brokerage account holder, their obligations and liabilities under this Agreement shall be joint and several and may be enforced by my Broker/Dealer or NFS against any or all brokerage account holders.

18. I understand that you may deliver margin calls and other notices to my Broker/Dealer for the sole purpose of collection of my obligations under this Agreement. I agree to the foregoing and further understand that my Broker/Dealer may act on your behalf with respect to margin calls in your discretion.

19. I represent that I have read and understand the Disclosure of Credit Terms on Transactions. I further understand that they may be amended from time to time.

20. Pre-Dispute Arbitration Agreement

This agreement contains a pre-dispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

(A) 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.

(B) Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.

(C) The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.

(D) 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.

(E) The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.

(F) 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.

(G) The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this agreement.

All controversies that may arise between me, my Broker/Dealer and NFS concerning any subject matter, issue or circumstance whatsoever (including, but not limited to, controversies concerning any account, order or transaction, or the continuation, performance, interpretation or breach of this or any other agreement between me, my Broker/Dealer and NFS whether entered into or arising before, on or after the date this account is opened) shall be determined by arbitration in accordance with the rules then prevailing of the Financial Industry Regulatory Authority (FINRA) or any United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member, as I may designate. If I designate the rules of a United States self-regulatory organization or United States securities exchange and those rules fail to be applied for any reason, then I shall designate the prevailing rules of any other United States securities self-regulatory organization or United States securities exchange of which the person, entity or entities against whom the claim is made is a member. If I do not notify you and/or my Broker/Dealer in writing of my designation within five (5) days after such failure or after I receive from you a written demand for arbitration, then I authorize my Broker/Dealer and/or NFS to make such designation on my behalf. The designation of the rules of a United States self-regulatory organization or United States securities exchange is not integral to the underlying agreement to arbitrate. I understand that judgment upon any arbitration award may be entered in any court of competent 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; or (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.

You are hereby authorized to lend, hypothecate or re-hypothecate separately or with the property of others, either to yourselves or to others, any property you may be carrying for me on margin. NFS may use certain securities in my account in connection with short sales and may receive compensation in connection therewith. This authorization shall apply to all my brokerage accounts you carry and shall remain in full force until you receive from my Broker/Dealer written notice of my revocation at your principal offices.

Margin Disclosure Statement

I represent that I have read the terms and conditions concerning this account and agree to be bound by such terms and conditions as currently in effect and as may be amended from time to time. This account is governed by a Pre-Dispute Arbitration Clause which appears in paragraph 20 on pages 4 and 8 of this Agreement. I acknowledge receipt of the Pre-Dispute Arbitration Clause, the Disclosure of Credit Terms on transactions, and Margin Disclosure Statement.

Important Information About Using Margin

This document is being furnished to you to provide some basic information about purchasing securities on margin, and to alert you to the risks involved with trading securities in a margin account. Before trading securities in a margin account, you should carefully review the margin terms in your account application and agreement. Not all securities are marginable and NFS reserves the right in its sole discretion to determine whether to extend margin on any securities. Contact your broker/dealer regarding any questions or concerns you may have with your margin accounts.

When you purchase securities, you may pay for the securities in full or you may borrow all or part of the purchase price from your brokerage firm. If you choose to borrow funds from your firm, you will open a margin account with National Financial Services LLC ("NFS"). The securities in your accounts are NFS's collateral for the loan to you.

The actual amount you can borrow and NFS's margin maintenance requirements may vary depending on NFS's internal margin policies, which exceed the margin requirements of FINRA and NYSE. NFS's margin policies are subject to review and revision at any time in NFS's sole discretion. NFS reserves the right to alter the terms on your margin loan at any time to comply with changes in NFS's policies.

If the securities in your account decline in value, so does the value of the collateral supporting your loan, and, as a result, NFS and your broker/dealer can take action, such as issue a margin call and/or sell securities or other assets in any of your accounts held with NFS through your broker/dealer, in order to maintain the required equity in the account. NFS may also take action to sell securities or other assets in your accounts held with NFS and with certain NFS affiliates.

Risks of Borrowing on Margin

It is important that you fully understand the risks involved in trading securities on margin. These risks include the following:

- **You can lose more funds than you deposit in the margin account.** NFS uses internal methodologies to determine whether there is insufficient equity in your account. This valuation may differ from your valuation and may differ from the valuation that NFS is able to obtain if it sells these assets to meet a margin deficiency in your account. A decline in the value of securities you purchased on margin may require you to provide additional funds or margin-eligible securities to NFS to avoid the forced sale of any securities or assets in your account(s).
- **NFS and your broker/dealer can force the sale of securities or other assets in your account(s).** If the equity in your account falls below the maintenance margin requirements or NFS's higher "house" requirements, NFS or your broker/dealer can sell the securities or other assets in any of your accounts held at NFS through your broker/dealer to cover the margin deficiency. NFS may also take action to sell securities or other assets in your accounts held with NFS and certain NFS affiliates. You also will be responsible for any short fall in the account after such a sale, possibly including NFS's and/or your broker/dealer's costs related to collecting the short fall. If you are a director, officer or 10% shareholder of an issuer whose securities NFS sells to cover a margin deficiency in your account, you could be liable to this issuer for profits from the forced sale, as compared with any purchases you may have made of securities of the same issuer within six months of the sale (note that you could receive such a profit even if a shortfall remains in the account after the sale).
- **NFS and your broker/dealer can sell your securities or other assets without contacting you.** Some investors mistakenly believe that a firm must contact them for a margin call to be valid, and that the firm cannot liquidate securities or other assets in their accounts to meet the call unless the firm has contacted them first. This is not the case. Most firms will attempt to notify their customers of margin calls, but they are not required to do so. In addition, even if a firm has contacted a customer and provided a specific date by which the customer can meet a margin call, the firm can still take necessary steps to protect its

financial interests prior to that date, including immediately selling the securities without notice to the customer.

- **You are not entitled to choose which securities or other assets in your account(s) are liquidated or sold to meet a margin call.** Because the securities and any other assets in your account(s) are collateral for the margin loan, NFS or your broker/dealer has the right to decide which assets to sell in order to protect its interests.
- **NFS can increase its "house" maintenance margin requirements at any time and is not required to provide you advance notice.** These changes in firm policy often take effect immediately and may result in the issuance of a maintenance margin call. Your failure to satisfy the call may cause NFS or your broker/dealer to liquidate or sell securities or any other assets in your account(s).

NFS may set account or security specific margin requirements on an individual basis and takes into consideration the following factors in determining margin maintenance requirements: (i) market volatility, which may include general market, issuer, industry and country conditions; (ii) the quality and composition of the securities in your account, including issuer capitalization and issuer, industry, liquidity and ownership concentrations; (iii) the quality and composition of your portfolio, including domestic and foreign exchange exposure, fixed-income exposure, frequency of activity in your account and liquidity of your account; (iv) NFS's ability generally to obtain financing for its margin loans; and (v) regulatory requirements and applicable law. NFS may place different weight on each of these factors, which may result in NFS's determining, in its sole discretion, to immediately increase your margin maintenance requirement, which will require you to provide additional funds or securities to avoid the forced sale of assets in your account.

NFS's review of any of the factors described above may require you to provide additional funds or securities, in an amount determined by NFS in its sole discretion, to avoid the forced sale of those securities or other securities in your account.

- **You are not entitled to an extension of time on a margin call.** While an extension of time to meet margin requirements may be available to customers under certain conditions, a customer does not have a right to the extension.
- **Short selling is a margin account transaction and entails the same risks as described above.** NFS or your broker/dealer can buy in your account securities to cover a short position without contacting you, and may use all or any portion of the assets in your account to make such a purchase. If the assets in your account are not sufficient to cover the cost of such a purchase, you will be responsible for any shortfall, possibly including NFS's and/or your broker/dealer's costs in collecting the shortfall.
- **NFS can loan securities held in your margin account which collateralize your margin borrowing.** In connection with the extension or maintenance of margin credit, NFS may loan securities in your margin account to itself or to others. As a result of these loans, you may not be entitled to receive certain benefits of a securities owner, such as the ability to exercise voting rights and/or receive interest, dividends, and/or other distributions with respect to the securities lent. While a security in your account is lent, you may only be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. Substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and you may incur additional tax liability for substitute payments that you receive. NFS may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, by means of a lottery allocation method. You are not entitled to any compensation in connection with securities lent from your account or for additional taxes you may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions.
- **In addition to market volatility, the use of bank card, checkwriting and similar features with your margin account may increase the risk of a margin call.**
- **NFS may use certain securities in your account in connection with short sales and may receive compensation in connection therewith.**

Contact your broker/dealer to request additional information concerning NFS's margin policies or concerning questions you may have with your margin account.

Disclosure of Credit Terms on Transactions

NFS Copy

Dear Customer:

Securities and Exchange Commission Rule 10b-16 requires a broker who extends credit to a customer in connection with any security transaction to furnish the customer specified information describing the terms, conditions and methods pursuant to which interest charges are made to customers' accounts. This statement is sent to you in conformity with that rule.

Interest will be charged on all accounts for any credit extended to or maintained for customers by the firm for the purpose of purchasing, carrying or trading in securities or otherwise.

The annual rate of interest you will be charged may vary from a minimum of .50% to a maximum of 2.50% above the National Financial Base Lending Rate ("NFBLR"), depending upon the amount of your average debit balance. The NFBLR is set at the discretion of NFS with references to commercially recognized interest rates, industry conditions regarding the extension of margin credit, and general credit conditions.

Current rates are as follows:

Average Debit Balance	Interest to be Charged Above NFBLR
\$0 — \$9,999	2.50%
\$10,000 — \$24,999	2.25%
\$25,000 — \$99,999	1.25%
\$100,000 — \$499,999	0.75%
\$500,000 and over	0.50%

In determining the daily debit balance and the resulting rate of interest we will combine the margin account balances in all accounts, except Type 3-Short Accounts and Type 9-Income Accounts. Interest is then computed for each account based on the rate resulting from averaging the daily debit balances during the interest period.

Your rate of interest will be changed without notice in accordance with changes in the NFBLR and in your average debit balance. When your interest rate is to be increased for any other reason, you will be given at least 30 days' written notice. If NFBLR is expressed as a range, NFS may apply the highest end of the range.

Your monthly statement will show the dollar amount of interest and the interest rate charged to your account. There will be no interest charge reflected on your statement if your monthly charge is less than \$1.00. An interest cycle will cover the period beginning with the first business day following the 20th of each month.

All securities or other property held by us in any of your accounts are collateral for any debit balances. A lien is created by those debits to secure the amount of money owed to us. This means securities or other assets in any of your accounts can be sold, withdrawn, transferred or converted to reduce or liquidate entirely any debit balances in your accounts, as authorized in your Margin Account Agreement.

If there is a decline in the market value of the securities or other assets which are collateral for your debits, it may be necessary for us to request additional margin.

Ordinarily, a request for additional margin will be made when the equity in the margin account (the market value of the securities or other assets in the account in excess of the debit balances) falls below our margin maintenance requirements, which may change from time to time without notice. We retain the right to require additional margin any time we deem it desirable. Margin calls can be met by delivery of cash or additional securities.

Other Charges. Separate charges at an annual rate of 2.5% above NFBLR may be made in the Type 1-Cash Account in connection with:

- a) Prepayments (by approval only) — payments to a customer of the proceeds of a security sale before the regular settlement date.
- b) "When-Issued" transactions — when the market price of the "when-issued" security deteriorates from the customer's contract price by an amount that exceeds the customer's cash deposit, interest may be charged on such excess.
- c) Late payments — payments for securities purchased which are received past settlement date.

Interest Computation. Interest on debit balances is computed by multiplying the average daily debit balance of the account by the applicable interest rate in effect and dividing by 360, times the number of days a daily debit balance was maintained during the interest period. Interest charged during the interest period is the total of such daily computations. The daily debit balance of the account is the aggregate daily debit balance for all accounts other than your Type 3-Short and Type 9-Income Accounts.

Example: NFBLR of 8% — Applicable Interest Rate 10.5%

Date	Daily Debit Balance
June 17	\$ 0
June 18	5,000
June 19	10,500
June 20	8,000
<hr/>	
Total of 3 Days	\$23,500

\$23,500 divided by 3 equals 7,833 (daily average balance), times 10.5% (applicable rate) divided by 360 equals \$2.28 (the daily interest charge), times 3 (the number of days account had a net debit balance during the interest period) equals an interest charge of \$6.85.

Marking to Market. The credit balance in the Type 3-Short Account will be decreased or increased in accordance with the corresponding market values of all short positions. Corresponding debits or credits will be posted to the Type 2-Margin Account. These entries in the Type 2-Margin Account will, of course, affect the balance on which interest is computed. Credits in your Type 3-Short Account, other than Marking to Market, will not be utilized to offset your Type 2-Margin Account balance for interest computation.

Notice to Customers

Financial Industry Regulatory Authority, Inc. rule 4311 requires that your Broker/Dealer and NFS allocate between them certain functions regarding the administration of your brokerage account. The following is a summary of the allocation services performed by your Broker/Dealer and NFS. A more complete description is available upon request.

Your Broker/Dealer is responsible for: (1) obtaining and verifying brokerage account information and documentation, (2) opening, approving and monitoring your brokerage account, (3) transmitting timely and accurate instructions to NFS with respect to your brokerage account, (4) determining the suitability of investment recommendations and advice, (5) operating and supervising your brokerage account and its own activities in compliance with applicable laws and regulations, including compliance with margin rules pertaining to your margin account, and (6) maintaining of required books and records for the services it performs.

NFS shall, at the direction of your Broker/Dealer: (1) execute, clear and settle transactions processed through NFS by your Broker/Dealer, (2) prepare and send transaction confirmations and periodic statements of your brokerage account (unless your Broker/Dealer has undertaken to do so). Certain pricing and other information may be provided by your Broker/Dealer or obtained from third parties, which has not been verified by NFS, (3) act as custodian for funds and securities received by NFS on your behalf, (4) follow the instructions of your Broker/Dealer with respect to transactions and the receipt and delivery of funds and securities for your brokerage account, and (5) extend margin credit for purchasing or carrying securities on margin. Your Broker/Dealer is responsible for ensuring that your brokerage account is in compliance with federal, industry and NFS margin rules, and for advising you of margin requirements. NFS shall maintain the required books and records for the services it performs.

BY SIGNING THIS APPLICATION I ACKNOWLEDGE THAT MY SECURITIES MAY BE LOANED TO YOU OR OTHERS AND THAT I HAVE READ AND RETAINED A COPY OF THE MARGIN DISCLOSURE STATEMENT AND MARGIN AGREEMENT. I understand that this account is governed by a pre-dispute arbitration agreement which appears on the last page of the Margin Account Agreement.

X _____ DATE mm/dd/yyyy X _____ DATE mm/dd/yyyy
 1. ACCOUNT HOLDER SIGNATURE 3. JOINT ACCOUNT HOLDERS (IF ANY)

X _____ DATE mm/dd/yyyy X _____ DATE mm/dd/yyyy
 2. JOINT ACCOUNT HOLDERS SIGNATURE (IF ANY) 4. JOINT ACCOUNT HOLDERS (IF ANY)

National Financial Services LLC, Member NYSE, SIPC

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Disclosure of Credit Terms on Transactions

Customer Copy

Please keep this document for your records

Dear Customer:

Securities and Exchange Commission Rule 10b-16 requires a broker who extends credit to a customer in connection with any security transaction to furnish the customer specified information describing the terms, conditions and methods pursuant to which interest charges are made to customers' accounts. This statement is sent to you in conformity with that rule.

Interest will be charged on all accounts for any credit extended to or maintained for customers by the firm for the purpose of purchasing, carrying or trading in securities or otherwise.

The annual rate of interest you will be charged may vary from a minimum of .50% to a maximum of 2.50% above the National Financial Base Lending Rate ("NFBLR"), depending upon the amount of your average debit balance. The NFBLR is set at the discretion of NFS with references to commercially recognized interest rates, industry conditions regarding the extension of margin credit, and general credit conditions.

Current rates are as follows:

Average Debit Balance	Interest to be Charged Above NFBLR
\$0 — \$9,999	2.50%
\$10,000 — \$24,999	2.25%
\$25,000 — \$99,999	1.25%
\$100,000 — \$499,999	0.75%
\$500,000 and over	0.50%

In determining the daily debit balance and the resulting rate of interest we will combine the margin account balances in all accounts, except Type 3-Short Accounts and Type 9-Income Accounts. Interest is then computed for each account based on the rate resulting from averaging the daily debit balances during the interest period.

Your rate of interest will be changed without notice in accordance with changes in the NFBLR and in your average debit balance. When your interest rate is to be increased for any other reason, you will be given at least 30 days' written notice. If NFBLR is expressed as a range, NFS may apply the highest end of the range.

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All securities or other property held by us in any of your accounts are collateral for any debit balances. A lien is created by those debits to secure the amount of money owed to us. This means securities or other assets in any of your accounts can be sold, withdrawn, transferred or converted to reduce or liquidate entirely any debit balances in your accounts, as authorized in your Margin Account Agreement.

If there is a decline in the market value of the securities or other assets which are collateral for your debits, it may be necessary for us to request additional margin. Ordinarily, a request for additional margin will be made when the equity in the margin

account (the market value of the securities or other assets in the account in excess of the debit balances) falls below our margin maintenance requirements, which may change from time to time without notice. We retain the right to require additional margin any time we deem it desirable. Margin calls can be met by delivery of cash or additional securities.

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NFS shall, at the direction of your Broker/Dealer: (1) execute, clear and settle transactions processed through NFS by your Broker/Dealer, (2) prepare and send transaction confirmations and periodic statements of your brokerage account (unless your Broker/Dealer has undertaken to do so). Certain pricing and other information may be provided by your Broker/Dealer or obtained from third parties, which has not been verified by NFS, (3) act as custodian for funds and securities received by NFS on your behalf, (4) follow the instructions of your Broker/Dealer with respect to transactions and the receipt and delivery of funds and securities for your brokerage account, and (5) extend margin credit for purchasing or carrying securities on margin. Your Broker/Dealer is responsible for ensuring that your brokerage account is in compliance with federal, industry and NFS margin rules, and for advising you of margin requirements. NFS shall maintain the required books and records for the services it performs.

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