

OFFERING PARTICIPATION AGREEMENT

The following Offering Participation Agreement ("Agreement") by you with WR Hambrecht + Co ("WRH+Co") governs your participation in offerings in which WRH+Co is an underwriter, is representing a group of underwriters (together with WRH+Co, the "Underwriters"), is placement agent or selling group member and in which offering materials may be displayed on the Internet or otherwise made available to investors through electronic means ("Offerings"). Acceptance of the terms and conditions of this Agreement and the establishment of a brokerage account with WRH+Co are conditions precedent to your participation in the Offerings. This Agreement is separate and distinct from any other account agreement you may have with WRH+Co. By signing your Account Application, you are agreeing to be bound by the terms and conditions of this Agreement. A copy of this Agreement should be maintained by you for future reference.

General Terms

As consideration for WRH+Co permitting you access to the Offerings, you agree to the terms and conditions contained in this Agreement as amended from time to time. This Agreement can be amended at any time by WRH+Co upon notice delivered to you.

"You" and "your" as used in this Agreement refers to each person listed as account holders on your current account agreement with WRH+Co ("Account Agreement") or a designate of any such person.

1. Access to and Delivery of Offering Information. Access to Offerings requires you to provide a mailing address ("Mailing Address") and an electronic mail address ("E-mail Address") to the extent such information is not provided in your Account Agreement. WRH+Co and the Underwriters are hereby authorized to deliver any and all communications to you including, without limitation, prospectuses, confirmations, notices and all other documents required in connection with Offerings ("Information") to your Mailing Address or E-mail Address, at their discretion, by mail, electronic mail or other means as described herein; provided, however, that if you prefer a specific method of communication you may notify WRH+Co by email or in writing of such preference, and WRH+Co will contact you according to your designated preference. If you are a joint account holder, you hereby agree that WRH+Co or the Underwriters may deliver Information to any E-mail Address provided in your Account Agreement. You hereby agree you will not, for any reason, alter any Information or URL Notice (as defined below) delivered to you electronically or otherwise.

WRH+Co and the Underwriters are authorized to deliver to you any Information by providing you with notice, delivered as specified above, which directs you to an Internet world wide web address ("URL") where the Information is posted and may be read and printed. The provision of any such notice (a "URL Notice") shall be deemed effective delivery of the Information referenced in such URL Notice and WRH+Co and the Underwriters shall be under no further obligation to deliver such Information except as specifically set forth herein. WRH+Co or the Underwriters may, in their discretion, provide you with a URL Notice by mail, electronic mail, notification set forth in this Agreement or notification by WRH+Co upon submission of a Bid (as defined below). You hereby consent to delivery of Information through the URL Notice and acknowledge that such delivery shall constitute good and effective delivery to you of the Information referenced in the URL Notice whether or not you access or review the Information referenced in the URL Notice.

Information and URL Notices sent by WRH+Co or the Underwriters to the E-mail Address or Mailing Address provided by you shall be deemed delivered regardless of whether actually received or not, unless you have notified WRH+Co in writing or by E-mail of a different address not less than 10 days prior to delivery. To the extent permitted by applicable law, Information and URL Notices may also be provided to you orally. For purposes of this Agreement, Information and URL Notices sent by electronic mail shall be deemed delivered by WRH+Co or the Underwriters upon being sent to your E-mail address and shall be deemed received by WRH+Co or the Underwriters only upon actual receipt by WRH+Co or the Underwriters of such notice.

If you so request, WRH+Co or the Underwriters, as applicable, shall deliver a paper copy to you of any offering materials legally required to be provided to you. You agree that despite any such request and compliance with any such request by WRH+Co or the Underwriters, electronic delivery of such offering materials or delivery by URL Notice shall constitute good and effective delivery and that the fact that a paper copy of such offering materials was requested or delivered shall not imply the contrary.

2. Auction Bids. With respect to offerings within the OpenIPO[®], OpenFollowOn[®], OpenBook[®], OpenPreferred, or any other auction system, after a registration statement relating to such offering has been filed, you may be permitted to enter a conditional bid (an "Auction Bid") with WRH+Co constituting a conditional offer to purchase the securities proposed to be sold in the offering when and if issued. With respect to each Offering in which you place an Auction Bid, you may be informed by WRH+Co as to the first date after which WRH+Co may refuse to accept any additional Auction Bids (the "Auction Close"). The Auction Close may occur upon such indicated date or at any time thereafter.

Posting of a notice of an Offering shall not constitute an offer to sell or the solicitation of an offer to buy securities. No Auction Bid may be accepted and no part of the purchase price can be received until the registration statement relating to such offering has become effective. Any Auction Bid may be withdrawn or modified, without obligation or commitment of any kind, at any time prior to the Auction Close and any Auction Bid may be withdrawn at any time prior to the Notice of Acceptance of the bid being sent ("Notice of Acceptance"). An Auction Bid submitted to WRH+Co prior to effectiveness of the registration statement relating to such Offering will involve no obligation or commitment of any kind. An Auction Bid submitted after effectiveness of the registration statement relating to such Offering or a conditional offer to purchase when converted to a firm Auction Bid after

effectiveness of such registration statement shall constitute an offer to purchase which may be withdrawn or modified, without obligation or commitment of any kind, at any time prior to the Auction Close and may be withdrawn at any time prior to the Notice of Acceptance being sent, but shall become irrevocable on Notice of Acceptance and be a binding agreement to purchase at the Offering Price (as defined below) the number of securities accepted for purchase upon the Auction Close and Notice of Acceptance.

Auction Bids shall include the number of securities which you propose to purchase and the price per security which you propose to pay for such securities. The price per share included in an Auction Bid shall be in increments of at least 1/100 of a dollar. All Auction Bids that alone, or that when cumulated with other Auction Bids submitted and not canceled on behalf of your Account, constitute a bid for in excess of 1% of the shares available in the offering (a "Large Quantity Bid") shall be subject to WRH+Co's rules with respect to Large Quantity Bids as set forth below.

Each Auction Bid will be authorized by you and subject to the terms and conditions of this Agreement. Any Auction Bid accepted by WRH+Co and the Underwriters shall be accepted on the basis that an actual purchase is intended and that you shall be obligated, in every case, to pay for the securities bid for upon closing of the sale of the securities bid for on behalf of your Account. The execution of an underwriting agreement by WRH+Co or the Underwriters will be a condition to your obligation to pay for any securities.

Without limiting their rights as set forth herein to alter the method of allocation and pricing and subject to their rights with respect to Large Quantity Bids (as set forth below), WRH+Co and the Underwriters shall use reasonable efforts to accept in part on a pro rata basis at the Offering Price all Auction Bids setting forth a price equal to, or in excess of, the Offering Price or, in the case of OpenBook and OpenPreferred Auctions, a yield equal to, or below, the Offering Yield. Notwithstanding the foregoing, you hereby agree that the submission of an Auction Bid on behalf of your Account in no way entitles you to purchase the securities offered and that WRH+Co and the Underwriters reserve the right and authority, in their discretion and without notice, to reject any Auction Bid that WRH+Co or the Underwriters deem manipulative, disruptive with respect to a particular Offering, disruptive to the securities market, unusual in size, type or credit risk or which WRH+Co or the Underwriters otherwise deem necessary or beneficial to facilitate the orderly completion of the offering. WRH+Co and the Underwriters may also reject or reduce a bid by an Account that has engaged in practices that could have a manipulative, disruptive, or otherwise adverse effect on an Offering. In addition, WRH+Co and the Underwriters reserve the right and authority to, in their own discretion and without notice, alter the proposed method of allocation and allocate securities on a different basis if they deem necessary to facilitate the orderly completion of the Offering.

WRH+Co and the Underwriters reserve the right and authority to, in their sole discretion, reject or reduce any Auction Bid prior to the Auction Close that WRH+Co or the Underwriters deem to be a credit risk. You are not required to have adequate funds in your account to fund your Auction Bid until the settlement date described in Section 6 below, however, if sufficient funds to fund your Auction Bid are not submitted prior to settlement WRH+Co may liquidate your Account. You should also be aware that any Auction Bid that is substantially in excess of your Account balance may be deemed a credit risk and reduced or rejected by WRH+Co or the other Underwriters or dealers participating in the Offering.

The "Clearing Price" with respect to any particular OpenIPO or OpenFollowOn Offering or other auction Offering shall be the price at which sufficient Auction Bids have been submitted to WRH+Co and the Underwriters to sell all of the securities proposed to be sold in such Offering. The "Clearing Yield" with respect to any particular OpenBook or OpenPreferred Offering shall be the yield at which sufficient Auction Bids have been submitted to WRH+Co and the Underwriters to sell all of the securities proposed to be sold in such Offering. You understand and acknowledge that the price at which the securities in any OpenIPO and OpenFollowOn Offering or other Auction Offering are sold to the public (the "Offering Price") may be less than the Clearing Price, and the yield at which the securities in any OpenBook or OpenPreferred Offering or other Auction Offering are sold to the public (the "Offering Yield") may be more than the Clearing Yield. Any Auction Bid submitted by you that includes a price at or in excess of the Offering Price may be accepted by WRH+Co (at the Offering Price), in whole or in part, whether or not such Auction Bid is in excess of the Clearing Price. Any Auction Bid submitted by you that includes a yield at or below the Offering Yield may be accepted by WRH+Co (at the Offering Yield), in whole or in part, whether or not such Auction Bid is below the Clearing Yield.

3. Modification and Withdrawal of Auction Bids. Any request to modify an Auction Bid will only be effected if such request is received by WRH+Co and the Underwriters prior to the Auction close. Any request to withdraw an Auction Bid will only be effected if received by WRH+Co and the Underwriters prior to the Notice of Acceptance being sent.

4. Applicable Rules and Regulations. WRH+Co's processing of any Auction Bid and all transactions on behalf of your Account shall be subject to WRH+Co's rules and regulations and the rules and regulations of WRH+Co as managing underwriter of the offering, which are subject to change at any time without notice. In addition, where applicable, the transactions in your Account with respect to the Offering shall be subject to the provisions of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and to the rules and regulations of the Securities and Exchange Commission, the Board of Governors of the Federal Reserve System, the National Association of Securities Dealers and any other applicable self-regulatory organization ("Applicable Regulations"). Violation by you of Applicable Regulations, (including without limitation, restrictions on "Free-Riding" in violation of Regulation T of the Federal Reserve Board) may result in restrictions being placed on your ability to participate in offerings through WRH+Co.

5. Large Quantity Bids. Without limiting any of the foregoing, WRH+Co and the Underwriters shall have the right to accept any Large Quantity Bid in part and limit the allocation of securities with respect to any Large Quantity Bid to an amount less than the total number of shares requested pursuant to such Large Quantity Bid, if in the sole discretion of WRH+Co or the Underwriters, such partial allocation of shares is necessary to facilitate a reasonable public distribution of the securities available in the offering.

6. Transactions and Settlement. The purchase and sale of securities are settled on "settlement date," which generally shall be the third business day after an order is accepted by WRH+Co and/or the Underwriters. If funds for settlement are not available in the Account and your order is accepted, your payment via wire or personal check or money order must immediately be submitted to WRH+Co. The payment must be sent and made payable to WR Hambrecht + Co. If payment is not received, at WRH+Co's discretion, your Account may be liquidated without prior notice. In the event your Account is liquidated, you will be liable for resulting losses and all associated costs incurred by WRH+Co and/or the Underwriters.

7. Restrictions. For their protection, WRH+Co or the Underwriters may at any time, at their discretion and without prior notice to you, place restrictions on your ability to participate in Offerings.

8. Agency. You understand that with respect to firm commitment underwritten offerings, WRH+Co is acting as a principal. WRH+Co will purchase the securities from the issuer and sell them to you.

9. Electronic Products and Services. You agree that you shall utilize only in accordance with this Agreement all products and services currently offered or offered in the future by WRH+Co which, through the use of electronic or interactive data communications, allow you (i) to communicate with WRH+Co, the Underwriters or any authorized service provider with respect to Offerings, (ii) to obtain information with respect to an Offering, or (iii) to buy securities in any Offering through WRH+Co. These products and services are referred to herein as "EPS."

You hereby agree that you shall be the only authorized user of any EPS under this Agreement and that you shall be solely responsible for the telecommunications costs (including Internet access fees) incurred directly by you in accessing any EPS. You shall be solely responsible for the confidentiality of any user name, password or other alpha-numeric code or other device required to participate in the Offering or otherwise access any EPS ("Passwords"). You understand that you shall be solely responsible for all Auction Bids submitted on behalf of your Account utilizing such Passwords.

If you become aware of any unauthorized use of your Account, you shall immediately notify WRH+Co in writing or via E-mail. Upon receipt of such notice, WRH+Co shall take reasonable steps to stop any activity in your Account, but neither WRH+Co, the Underwriters nor any of their respective managers, directors, officers, employees, agents, affiliates, representatives or subsidiaries can or will have any responsibility or liability to you or to any other person whose claim may arise through you for any claims with respect to the handling or mishandling of any transaction resulting from the unauthorized use of your Account.

WRH+Co may modify or discontinue any EPS without prior notice.

NEITHER WRH+Co, THE UNDERWRITERS, NOR THEIR RESPECTIVE AFFILIATES, MANAGERS, DIRECTORS, OFFICERS, EMPLOYEES, AGENTS, REPRESENTATIVES OR SUBSIDIARIES SHALL BE LIABLE FOR ANY DAMAGES, WHETHER DIRECT OR INDIRECT, (INCLUDING, WITHOUT LIMITATION, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES) THAT RESULT FROM INCONVENIENCE, DELAY OR LOSS OF THE USE OF ANY EPS NOTWITHSTANDING THE FACT THAT WRH+Co HAS BEEN ADVISED OF THE POSSIBILITY OF ANY SUCH DAMAGES. WRH+Co DOES NOT MAKE ANY WARRANTY OR OTHER ASSURANCES AS TO THE OPERATION OR FUNCTIONALITY OF ITS WEB SITE, ACCESS TO WHICH MAY BE INTERRUPTED, RESTRICTED OR DELAYED FROM TIME TO TIME FOR A VARIETY OF REASONS WHICH ARE BEYOND ITS CONTROL.

10. Eligibility. You hereby acknowledge that WRH+Co may notify you via E-mail or otherwise of opportunities to participate in Offerings. You understand that Offerings are considered to be high risk investments. You agree that such notices from WRH+Co of opportunities to participate in Offerings are not intended to be, and shall not be considered to be, recommendations by WRH+Co that Offerings in general or any Offering in particular is a suitable investment for you. On the contrary, you acknowledge and agree that investing in Offerings is speculative and highly risky and therefore only appropriate for investors who desire to take and can bear such risks. You further represent and warrant that you have disclosed to WRH+Co in your Account Application or otherwise whether you are an employee of any securities exchange, or of any corporation in which any securities exchange owns a majority of the capital stock, or a member of any exchange, or of a member firm or any securities exchange or the National Association of Securities Dealers, Inc. ("NASD"), or of a bank, trust company, insurance company, investment adviser or of any corporation, firm, or individual engaged in the business of dealing, either directly or as a broker or principal, in securities or if you are a member of the immediate family of any such person. You hereby agree to notify WRH+Co in writing if you or a member of your immediate family become or becomes so affiliated and to furnish WRH+Co such information that WRH+Co requests to verify or confirm such representation. You represent, warrant and agree that any Auction Bids or indications of interest you submit will be suitable investments for you based upon your investment objectives, your other securities holdings and your financial situation and needs. You hereby certify that you have furnished WRH+Co with personal information about your investment objectives, your other securities holdings and your financial situation and needs, and that such information is now accurate and current, and will be accurate and current, as of the date of each Auction Bid or indication of interest. You agree to promptly furnish WRH+Co with any changes in such information. If applicable, you also represent, warrant and agree that you will not open an Account with WRH+Co or submit an Auction Bid or indication of interest for which you have not obtained approval from your firm prior to opening such Account and submitting such Auction Bid or indication of interest. You agree, nevertheless, that WRH+Co may reject your bid or indication in its entirety or reduce the amount of shares for which you bid or indicated in its discretion based on the information you furnished to WRH+Co.

11. Severability. If any provision of this Agreement is held to be invalid, void or unenforceable by reason of any law, rule, administrative order or judicial decision, that determination shall not affect the validity of the remaining provisions of this Agreement.

12. Waiver and Amendment. Except as specifically permitted in this Agreement, no provision of this Agreement can be, nor be deemed to be, waived, altered, modified or amended unless agreed to in writing by an authorized officer of WRH+Co. This Agreement or any provision hereof may be waived, altered, modified or amended by WRH+Co at any time effective on notice to you of such waiver, alteration, modification or amendment.

13. Successors. You hereby agree that this Agreement and all the terms hereof shall be binding upon your heirs, executors, administrators, personal representatives and assigns. This Agreement shall inure to the benefit of WRH+Co, the Underwriters and their respective successors, assigns and agents.

14. Captions. The caption of each provision hereof is for convenience only and shall not be deemed to modify or qualify any of the rights or obligations set forth or be used to construe or interpret any of the provisions hereunder.

15. Pre-dispute Arbitration Agreement.

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

A.

(i) 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.

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

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

(iv) The arbitrators do not have to explain the reason(s) for their award.

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

(vi) 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.

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

B. I agree that the following conditions apply to any and all controversies arising between me and WRH+Co, and/or Pershing LLC ("Pershing"), and/or any of their respective managers, directors, officers, controlling persons, employees, representatives or agents with respect to any Account in which I have an interest:

All controversies which may arise between me and/or my agents, employees or representatives, and WRH+Co and/or Pershing, and/or WRH+Co's, or Pershing's respective managers, directors, officers, controlling persons, employees, representatives or agents, concerning any transaction or the construction, performance or breach of this agreement or any other agreement between me and WRH+Co, and/or Pershing, including but not limited to my Account Application or my Offering Participation Agreement, whether such transaction or agreement was entered into prior, on or subsequent to the date hereof, shall be determined by arbitration held pursuant to the then current Code of Arbitration Procedure of the National Association of Securities Dealers, Inc. This agreement to arbitrate shall be specifically enforceable under prevailing law and procedures, the award rendered by the arbitrators shall be final, and judgment may be entered upon it in any court having jurisdiction over the parties. Counsel can advise me on how this provision may affect me.

C. This agreement to arbitrate constitutes a waiver of the right to seek a judicial forum unless such a waiver would be void under the federal securities laws.

D. No person shall bring a putative or certified class action to arbitration, nor seek to enforce any pre-dispute arbitration agreement against any person who has initiated in court a putative class action; or who is a member of a putative class who has not opted out of the class with respect to any claims encompassed by the putative class action until:

(i) the class certification is denied;

(ii) the class is decertified; or

(iii) the customer is excluded from the class by the court.

Such forbearance to enforce an agreement to arbitrate shall not constitute a waiver of any rights under this agreement except to the extent stated herein.

ACCOUNTS CARRIED WITH PERSHING LLC—MEMBER NYSE/FINRA/SIPC

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WR HAMBRECHT + CO – MEMBER FINRA/SIPC