

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-3
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933



AKOUSTIS TECHNOLOGIES, INC.*
(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

33-1229046

(IRS Employer
Identification No.)

**9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
(704) 997-5735**

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

**Jeffrey B. Shealy
President and Chief Executive Officer
Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
(704) 997-5735**

(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copy to:

**Sean M. Jones
K&L Gates LLP
300 South Tryon Street, Suite 1000
Charlotte, North Carolina 28202
(704) 331-7400**

From time to time after the effective date of this registration statement.
(Approximate date of commencement of proposed sale to the public)

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933 check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large accelerated filer
Non-accelerated filer

Accelerated filer
Smaller reporting company
Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered (1)	Amount to be Registered (1)(2)	Proposed Maximum Offering Price per Share (1)(2)	Proposed Maximum Aggregate Offering Price (1)(2)(3)	Amount of Registration Fee
Common Stock, par value \$0.001 per share				
Preferred Stock, par value \$0.001 per share				
Debt Securities				
Guarantees of Debt Securities (4)				
Warrants				
Rights				
Units (5)				
Total for Sale by Registrant			\$ 150,000,000 ⁽⁶⁾	\$ 19,470 ⁽⁷⁾

- (1) Pursuant to General Instruction II.D of Form S-3, this information is not specified as to each class of securities to be registered. There is being registered hereby such indeterminate number of the securities of each identified class as may from time to time be issued at indeterminate prices. Securities registered hereby may be offered for U.S. dollars or the equivalent thereof in foreign currencies. Securities registered hereunder may be sold separately, together or in units with other securities registered hereunder.
- (2) The securities being registered hereby may be convertible into or exchangeable or exercisable for other securities of any identified class. In addition to the securities set forth in the table, there is being registered hereunder such indeterminate aggregate number or amount, as the case may be, of the securities of each identified class as may from time to time be issued in connection with any stock split, stock dividend or similar transaction, including under any applicable anti-dilution provisions. (including, without limitation, upon adjustment of the conversion or exchange rate thereof). Separate consideration may or may not be received for securities that are issued upon the conversion or exercise of, or in exchange for, other securities offered hereby.
- (3) The proposed maximum aggregate offering price has been estimated solely to calculate the registration fee in accordance with Rule 457(o) under the Securities Act of 1933.
- (4) No separate consideration will be paid in respect of the guarantees and no additional registration fee is required pursuant to Rule 457(n) under the Securities Act.
- (5) Consisting of some or all of the securities listed above, in any combination, including common stock, preferred stock, debt securities and warrants.
- (6) Pursuant to Rule 415(a)(6) under the Securities Act of 1933, the securities registered pursuant to this Registration Statement include \$24,687,500 of unsold securities that were previously registered by the Registrant on Form S-3 (File No. 333-227637), initially filed on October 1, 2018 and declared effective October 5, 2018 (the "Prior Registration Statement"). A filing fee of \$3,204.44 was paid in connection with such unsold securities and will continue to be applied to such unsold securities in accordance with Rule 415(a)(6). Pursuant to Rule 415(a)(6), the offering of the unsold securities registered under the Prior Registration Statement will be deemed terminated as of the effective date of this Registration Statement. If the registrant sells any of such unsold securities pursuant to the Prior Registration Statement after the date of filing, and prior to the date of effectiveness, of this Registration Statement, the registrant will file a pre-effective amendment to this Registration Statement which will reduce the number of such unsold securities included on this Registration Statement.
- (7) Calculated pursuant to Rule 457(o) under the Securities Act of 1933.

The Registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the Registration Statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

*** ADDITIONAL REGISTRANT GUARANTOR**

The following additional registrant may guarantee the debt securities registered hereby:

Exact name of additional registrant as specified in its charter (1)	State or other jurisdiction of incorporation or organization	I.R.S. Employer Identification No.
Akoustis, Inc.	Delaware	46-5645617

- (1) The address of the additional registrant guarantor's principal executive office is 9805 Northcross Center Court, Suite A Huntersville, North Carolina 28078 and the phone number is (704) 997-5735.

EXPLANATORY NOTE

This registration statement contains:

- a base prospectus which covers the offering, issuance and sale by us of up to \$150,000,000 in the aggregate of the securities identified above from time to time in one or more offerings; and
- a sales agreement prospectus supplement covering the offering, issuance and sale by us of up to a maximum aggregate offering price of \$50,000,000 of our common stock that may be issued and sold under a sales agreement with BofA Securities, Inc. and Piper Sandler & Co.

The base prospectus immediately follows this explanatory note. The specific terms of any securities to be offered pursuant to the base prospectus will be specified in a prospectus supplement to the base prospectus. The sales agreement prospectus supplement immediately follows the base prospectus. The \$50,000,000 of common stock that may be offered, issued and sold under the sales agreement prospectus supplement is included in the \$150,000,000 of securities that may be offered, issued and sold by us under the base prospectus. Upon termination of the sales agreement with BofA Securities, Inc. and Piper Sandler & Co., any portion of the \$50,000,000 included in the sales agreement prospectus supplement that is not sold pursuant to the sales agreement will be available for sale in other offerings pursuant to the base prospectus and a corresponding prospectus supplement, and if no shares are sold under the sales agreement, the full \$150,000,000 of securities may be sold in other offerings pursuant to the base prospectus and a corresponding prospectus supplement.

The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to completion, dated May 8, 2020



**AKOUSTIS TECHNOLOGIES, INC.
AKOUSTIS, INC.**

Prospectus

\$150,000,000

Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units

This prospectus relates to common stock, preferred stock, debt securities, warrants, rights and units that Akoustis Technologies, Inc. may sell from time to time in one or more offerings on terms to be determined at the time of sale. Our subsidiary, Akoustis, Inc., may guarantee any debt securities offered by this prospectus, if and to the extent identified in the related prospectus supplement. We refer to the common stock, preferred stock, debt securities and any related guarantees, warrants, rights and units collectively as the "securities." We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters or through a combination of these methods. See "Plan of Distribution" in this prospectus. We may also describe the plan of distribution for any particular offering of these securities in any applicable prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

Our common stock trades on the Nasdaq Capital Market under the symbol "AKTS." On May 7, 2020, the last reported sale price for our common stock was \$8.38 per share.

INVESTING IN OUR SECURITIES INVOLVES RISKS. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES DESCRIBED UNDER THE HEADING "RISK FACTORS" CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND UNDER SIMILAR HEADINGS IN OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS OR ANY SUCH PROSPECTUS SUPPLEMENT. SEE "RISK FACTORS" ON PAGE 2 OF THIS PROSPECTUS.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is _____, 2020.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process. Under this shelf process, we may from time to time sell any combination of securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the securities being offered. That prospectus supplement may include a discussion of any risk factors or other special considerations that apply to those securities. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and a prospectus supplement, you should rely on the information in that prospectus supplement. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the headings “Where You Can Find More Information” and “Incorporation by Reference.”

When acquiring any securities discussed in this prospectus, you should rely on the information provided in this prospectus and the prospectus supplement, including the information incorporated by reference. Neither we, nor any underwriters or agents, have authorized anyone to provide you with different information. We are not offering the securities in any state where such an offer is prohibited. You should not assume that the information in this prospectus, any prospectus supplement, or any document incorporated by reference, is truthful or complete at any date other than the date mentioned on the cover page of those documents. You should also carefully review the section entitled “Risk Factors”, which highlights certain risks associated with an investment in our securities, to determine whether an investment in our securities is appropriate for you.

Unless otherwise stated or the context requires otherwise, references to “Akoustis”, the “Company,” “we,” “us” or “our” are to Akoustis Technologies, Inc and its wholly owned consolidated subsidiary, Akoustis, Inc., each a Delaware corporation.

FORWARD-LOOKING STATEMENTS

Certain information set forth in this prospectus or incorporated by reference in this prospectus may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), that are intended to be covered by the “safe harbor” created by those sections. Forward-looking statements include information concerning our possible future results of operations, business strategies, competitive position, potential growth opportunities, potential market opportunities and the effects of competition. Forward-looking statements include all statements that are not historical facts and can be identified by terms such as “anticipates,” “believes,” “could,” “seeks,” “estimates,” “expects,” “forecasts,” “may” “intends,” “may,” “plans,” “potential,” “predicts,” “projects,” “should,” “will,” “would” or similar expressions and the negatives of those terms.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. We discuss these risks in greater detail in the “Risk Factors” section and elsewhere in this prospectus. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Also, forward-looking statements represent our management’s beliefs and assumptions only as of the date of this prospectus. You should read this prospectus and the documents that we have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

THE COMPANY

Akoustis® is an emerging commercial company focused on developing, designing, and manufacturing innovative radio frequency (“RF”) filter products for the wireless industry, including for products such as smartphones and tablets, network infrastructure equipment, WiFi Customer Premise Equipment (“CPE”) and defense applications. Filters are critical in selecting and rejecting signals, and their performance enables differentiation in the modules defining the RF front-end (“RFFE”). Located between the device’s antenna and its digital backend, the RFFE is the circuitry that performs the analog signal processing and contains components such as amplifiers, filters and switches. We have developed a new and proprietary microelectromechanical systems (“MEMS”) based bulk acoustic wave (“BAW”) technology and a unique manufacturing process flow, called “XBAW”, for our filters produced for use in RFFE modules. Our XBAW™ filters incorporate optimized high purity piezoelectric materials for high power, high frequency and wide bandwidth operation. We currently build high performance RF filter circuits, using our first generation XBAW™ wafer process, in our 120,000-square foot wafer-manufacturing facility located in Canandaigua, New York, which we acquired in June 2017.

Company Information

Our principal executive offices are located at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078. Our telephone number is (704) 997-5735. Our website address is www.akoustis.com. The information on, or that can be accessed through, our website is not part of this prospectus and is not incorporated by reference in this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risk factors described in our Annual Report on Form 10-K for our most recent fiscal year (together with any material changes thereto contained in subsequent filed Quarterly Reports on Form 10-Q and Current Reports on Form 8-K) and those contained in our other filings with the SEC, which are incorporated by reference in this prospectus and any accompanying prospectus supplement.

The prospectus supplement applicable to each type or series of securities we offer may contain a discussion of risks applicable to the particular types of securities that we are offering under that prospectus supplement. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the caption “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained in the prospectus supplement or appearing or incorporated by reference in this prospectus. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline. You could lose all or part of your investment.

USE OF PROCEEDS

Unless otherwise indicated in a prospectus supplement, the net proceeds from the sale of the securities will be used for working capital and general corporate purposes, which may include acquisitions, retirement of debt and other business opportunities.

DESCRIPTION OF COMMON STOCK WE MAY OFFER

The following summary description of our common stock is based on the provisions of our certificate of incorporation, as amended (the “Certificate of Incorporation”), and bylaws, as amended (the “Bylaws”), and the applicable provisions of the General Corporation Law of the State of Delaware (the “DGCL”). This information may not be complete in all respects and is qualified entirely by reference to the provisions of our Certificate of Incorporation and our Bylaws and the DGCL. For information on how to obtain copies of our Certificate of Incorporation and Bylaws, see the discussion below under the heading “Where You Can Find More Information.”

We may offer our common stock issuable upon the conversion of debt securities or preferred stock and upon the exercise of warrants.

Authorized Capital

We currently have authority to issue 100,000,000 shares of our common stock, par value of \$0.001 per share. As of May 6, 2020, 36,469,000 shares of our common stock were issued and outstanding.

Voting Rights

Except as otherwise required by Delaware law, at every annual or special meeting of stockholders, every holder of common stock is entitled to one vote per share. There is no cumulative voting in the election of directors.

Dividend and Liquidation Rights

The holders of outstanding shares of common stock are entitled to receive dividends out of assets or funds legally available for the payment of dividends at such times and in such amounts as the Company's board of directors (the "Board of Directors") from time to time may determine. We have never paid any cash dividends on our common stock and do not anticipate paying any cash dividends on our common stock in the foreseeable future. We intend to retain future earnings to fund ongoing operations and future capital requirements. Any future determination to pay dividends will be at the discretion of the Board of Directors and will be dependent upon financial condition, results of operations, capital requirements and such other factors as the Board of Directors deems relevant.

The common stock is not entitled to pre-emptive rights and is not subject to conversion or redemption. Upon liquidation, dissolution or winding up of our company, the assets legally available for distribution to stockholders are distributable ratably among the holders of the common stock after payment of liquidation preferences, if any, on any outstanding payment of other claims of creditors.

Our shares of common stock are listed on the Nasdaq Capital Market under the symbol "AKTS."

DESCRIPTION OF PREFERRED STOCK WE MAY OFFER

This section describes the general terms and provisions of the preferred stock we may offer. This information may not be complete in all respects and is qualified entirely by reference to the Certificate of Incorporation or certificate of designations, with respect to each series of preferred stock. The specific terms of any series will be described in a prospectus supplement. Those terms may differ from the terms discussed below. Any series of preferred stock we issue will be governed by the Certificate of Incorporation and by the certificate of designations relating to that series. We will file the certificate of designations with the SEC and incorporate it by reference as an exhibit to our registration statement at or before the time we issue any preferred stock of that series.

Authorized Preferred Stock

The Certificate of Incorporation authorizes us to issue 5,000,000 shares of preferred stock, par value \$0.001 per share. As of May 6, 2020, we had no shares of preferred stock issued and outstanding. Our authorized but unissued shares of preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded.

The Board of Directors has the authority to issue preferred stock in one or more series, each of which will have such distinctive designation or title as shall be determined by the Board of Directors prior to the issuance of any shares thereof. Preferred stock will have such voting powers, whole or limited, or no voting powers, and such preferences and relative, participating, optional or other special rights and such qualifications, limitations or restrictions thereof, as shall be stated in such resolution or resolutions providing for the issue of such class or series of preferred stock as may be adopted from time to time by the Board of Directors prior to the issuance of any shares thereof. The designations, powers, rights and preferences of the preferred stock could include voting rights, dividend rights, dissolution rights, conversion rights, exchange rights, redemption rights, liquidation preferences, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing change in our control or other corporate action. No shares of our preferred stock are currently issued and outstanding.

Specific Terms of a Series of Preferred Stock

The preferred stock we may offer will be issued in one or more series. A prospectus supplement will discuss the following features of the series of preferred stock to which it relates:

- the designations and stated value per share;
- the number of shares offered;
- the amount of liquidation preference per share;
- the public offering price at which the preferred stock will be issued;
- the dividend rate, the method of its calculation, the dates on which dividends would be paid and the dates, if any, from which dividends would cumulate;
- any redemption or sinking fund provisions;
- any conversion or exchange rights; and
- any additional voting, dividend, liquidation, redemption, sinking fund and other rights, preferences, privileges, limitations and restrictions.

Rank

Unless otherwise stated in the prospectus supplement, the preferred stock will have priority over our common stock with respect to dividends and distribution of assets, but will rank junior to all our outstanding indebtedness for borrowed money. Any series of preferred stock could rank senior, equal or junior to our other capital stock, as may be specified in a prospectus supplement, as long as our amended and restated certificate of incorporation so permits.

Dividends

Holders of each series of preferred stock shall be entitled to receive cash dividends to the extent specified in the prospectus supplement when, as and if declared by the Board of Directors, from funds legally available for the payment of dividends. The rates and dates of payment of dividends of each series of preferred stock will be stated in the prospectus supplement. Dividends will be payable to the holders of record of preferred stock as they appear on our books on the record dates fixed by the Board of Directors. Dividends on any series of preferred stock may be cumulative or non-cumulative, as discussed in the applicable prospectus supplement.

Convertibility

Shares of a series of preferred stock may be exchangeable or convertible into shares of our common stock, another series of preferred stock or other securities or property. The conversion or exchange may be mandatory or optional. The prospectus supplement will specify whether the preferred stock being offered has any conversion or exchange features, and will describe all the related terms and conditions.

Redemption

The terms, if any, on which shares of preferred stock of a series may be redeemed will be discussed in the applicable prospectus supplement.

Liquidation

Upon any voluntary or involuntary liquidation, dissolution or winding up of the affairs of Akoustis, holders of each series of preferred stock will be entitled to receive distributions upon liquidation in the amount described in the related prospectus supplement. These distributions will be made before any distribution is made on any securities ranking junior to the preferred stock with respect to liquidation, including our common stock. If the liquidation amounts payable relating to the preferred stock of any series and any other securities ranking on a parity regarding liquidation rights are not paid in full, the holders of the preferred stock of that series will share ratably in proportion to the full liquidation preferences of each security. If the liquidation amounts payable are insufficient to pay any distribution to the preferred stock of any series and any other securities ranking on a parity regarding liquidation rights, the holders of the preferred stock of that series will receive nothing. Holders of our preferred stock will not be entitled to any other amounts from us after they have received their full liquidation preference.

Voting

The holders of preferred stock of each series will have no voting rights, except as required by law and as described below or in a prospectus supplement. Our Board of Directors may, upon issuance of a series of preferred stock, grant voting rights to the holders of that series to elect additional board members if we fail to pay dividends in a timely fashion.

Without the affirmative vote of a majority of the shares of preferred stock of any series then outstanding, we may not:

- increase or decrease the aggregate number of authorized shares of that series'
- increase or decrease the par value of the shares of that series; or
- alter or change the powers, preferences or special rights of the shares of that series so as to affect them adversely

No Other Rights

The shares of a series of preferred stock will not have any preferences, voting powers or relative, participating, optional or other special rights except:

- as discussed above or in the prospectus supplement;
- as provided in our Certificate of Incorporation and in any certificate of designation; or
- as otherwise required by law.

DESCRIPTION OF DEBT SECURITIES AND GUARANTEES WE MAY OFFER

General

The debt securities that we may issue will constitute debentures, notes, bonds or other evidences of indebtedness of Akoustis Technologies, Inc., to be issued in one or more series, which may include either senior debt securities, subordinated debt securities or senior subordinated debt securities. The particular terms of any series of debt securities we offer, including the extent to which the general terms set forth below may be applicable to a particular series, will be described in a prospectus supplement relating to such series.

Debt securities and any guarantees that we may issue will be issued under an indenture between us and a trustee qualified to act as such under the Trust Indenture Act of 1939. We have filed the form of the indenture as an exhibit to the registration statement of which this prospectus is a part. When we refer to the “indenture” in this prospectus, we are referring to the indenture under which the debt securities are issued as supplemented by any supplemental indenture applicable to the debt securities. We will provide the name of the trustee in any prospectus supplement related to the issuance of debt securities, and we will also provide certain other information related to the trustee, including describing any relationship we have with the trustee, in such prospectus supplement.

THE FOLLOWING DESCRIPTION IS A SUMMARY OF THE MATERIAL PROVISIONS OF THE INDENTURE. IT DOES NOT RESTATE THE INDENTURE IN ITS ENTIRETY. THE INDENTURE IS GOVERNED BY THE TRUST INDENTURE ACT OF 1939. THE TERMS OF THE DEBT SECURITIES INCLUDE THOSE STATED IN THE INDENTURE AND THOSE MADE PART OF THE INDENTURE BY REFERENCE TO THE TRUST INDENTURE ACT. WE URGE YOU TO READ THE INDENTURE BECAUSE IT, AND NOT THIS DESCRIPTION, DEFINES YOUR RIGHTS AS A HOLDER OF THE DEBT SECURITIES.

Information You Will Find in the Prospectus Supplement

The indenture provides that we may issue debt securities from time to time in one or more series and that we may denominate the debt securities and make them payable in foreign currencies. The indenture does not limit the aggregate principal amount of debt securities that can be issued thereunder. The prospectus supplement for a series of debt securities will provide information relating to the terms of the series of debt securities being offered, which may include:

- the title and denominations of the debt securities of the series;
- any limit on the aggregate principal amount of the debt securities of the series;
- the date or dates on which the principal and premium, if any, with respect to the debt securities of the series are payable or the method of determination thereof;
- the rate or rates, which may be fixed or variable, at which the debt securities of the series shall bear interest, if any, or the method of calculating and/or resetting such rate or rates of interest;
- the dates from which such interest shall accrue or the method by which such dates shall be determined and the duration of the extensions and the basis upon which interest shall be calculated;
- the interest payment dates for the series of debt securities or the method by which such dates will be determined, the terms of any deferral of interest and any right of ours to extend the interest payment periods;

- the place or places where the principal and interest on the series of debt securities will be payable;
- the terms and conditions upon which debt securities of the series may be redeemed, in whole or in part, at our option or otherwise;
- our obligation, if any, to redeem, purchase, or repay debt securities of the series pursuant to any sinking fund or other specified event or at the option of the holders and the terms of any such redemption, purchase, or repayment;
- the terms, if any, upon which the debt securities of the series may be convertible into or exchanged for other securities, including, among other things, the initial conversion or exchange price or rate and the conversion or exchange period;
- if the amount of principal, premium, if any, or interest with respect to the debt securities of the series may be determined with reference to an index or formula, the manner in which such amounts will be determined;
- if any payments on the debt securities of the series are to be made in a currency or currencies (or by reference to an index or formula) other than that in which such securities are denominated or designated to be payable, the currency or currencies (or index or formula) in which such payments are to be made and the terms and conditions of such payments;
- any changes or additions to the provisions of the indenture dealing with defeasance, including any additional covenants that may be subject to our covenant defeasance option;
- the currency or currencies in which payment of the principal and premium, if any, and interest with respect to debt securities of the series will be payable, or in which the debt securities of the series shall be denominated, and the particular provisions applicable thereto in accordance with the indenture;
- the portion of the principal amount of debt securities of the series which will be payable upon declaration of acceleration or provable in bankruptcy or the method by which such portion or amount shall be determined;
- whether the debt securities of the series will be secured or guaranteed and, if so, on what terms;
- any addition to or change in the events of default with respect to the debt securities of the series;
- the identity of any trustees, authenticating or paying agents, transfer agents or registrars;
- the applicability of, and any addition to or change in, the covenants currently set forth in the indenture;
- the subordination, ranking or priority, if any, of the debt securities of the series and terms of the subordination;
- any other terms of the debt securities of the series which are not prohibited by the indenture; and

Holders of debt securities may present debt securities for exchange in the manner, at the places, and subject to the restrictions set forth in the debt securities, the indenture, and the prospectus supplement. We will provide these services without charge, other than any tax or other governmental charge payable in connection therewith, but subject to the limitations provided in the indenture, any board resolution establishing such debt securities and any applicable indenture supplement.

Senior Debt

We may issue senior debt securities under the indenture. Unless otherwise set forth in the applicable indenture supplement and described in a prospectus supplement, the senior debt securities will be senior unsecured obligations, ranking equally with all of our existing and future senior unsecured debt. The senior debt securities will be senior to all of our subordinated debt and junior to any secured debt we may incur as to the assets securing such debt.

Subordinated Debt

We may issue subordinated debt securities under the indenture. These subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner set forth in the indenture and any applicable indenture supplement, to all of our senior indebtedness.

If this prospectus is being delivered in connection with a series of subordinated debt securities, the accompanying prospectus supplement or the information incorporated by reference will set forth the approximate amount of senior indebtedness outstanding as of the end of the most recent fiscal quarter.

Senior Subordinated Debt

We may issue senior subordinated debt securities under the indenture. These senior subordinated debt securities will be, to the extent and in the manner set forth in the applicable indenture supplement, subordinate and junior in right of payment to all of our "senior indebtedness" and senior to our other subordinated debt.

Guarantees

Our payment obligations under any series of the debt securities may be unconditionally guaranteed by our subsidiary, Akoustis, Inc. If a series of debt securities is so guaranteed, Akoustis, Inc. will execute a supplemental indenture as evidence of the guarantee. The applicable prospectus supplement will describe the terms of any guarantee by Akoustis, Inc.

Interest Rate

Debt securities that bear interest will do so at a fixed rate or a variable rate. We may sell, at a discount below the stated principal amount, any debt securities which bear no interest or which bear interest at a rate that at the time of issuance is below the prevailing market rate. The relevant prospectus supplement will describe the special United States federal income tax considerations applicable to:

- any discounted debt securities; and
- any debt securities issued at par which are treated as having been issued at a discount for United States federal income tax purposes.

Registered Global Securities

We may issue registered debt securities of a series in the form of one or more fully registered global securities. We will deposit the registered global security with a depository or with a nominee for a depository identified in the prospectus supplement relating to such series. The global security or global securities will represent and will be in a denomination or aggregate denominations equal to the portion of the aggregate principal amount of outstanding registered debt securities of the series to be represented by the registered global security or securities. Unless it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred, except as a whole in three cases:

- by the depository for the registered global security to a nominee of the depository;
- by a nominee of the depository to the depository or another nominee of the depository; and
- by the depository or any nominee to a successor of the depository or a nominee of the successor.

The prospectus supplement relating to a series of debt securities will describe the specific terms of the depository arrangement concerning any portion of that series of debt securities to be represented by a registered global security. We anticipate that the following provisions will generally apply to all depository arrangements.

Upon the issuance of a registered global security, the depository will credit, on its book-entry registration and transfer system, the principal amounts of the debt securities represented by the registered global security to the accounts of persons that have accounts with the depository. These persons are referred to as "participants." Any underwriters, agents or dealers participating in the distribution of debt securities represented by the registered global security will designate the accounts to be credited. Only participants or persons that hold interests through participants will be able to beneficially own interests in a registered global security. The depository for a global security will maintain records of beneficial ownership interests in a registered global security for participants. Participants or persons that hold through participants will maintain records of beneficial ownership interests in a global security for persons other than participants. These records will be the only means to transfer beneficial ownership in a registered global security.

The laws of some states may require that specified purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in global securities.

So long as the depository, or its nominee, is the registered owner of a registered global security, the depository or its nominee will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the indenture. Except as set forth below, owners of beneficial interests in a registered global security:

- may not have the debt securities represented by a registered global security registered in their names;
- will not receive or be entitled to receive physical delivery of debt securities represented by a registered global security in definitive form; and
- will not be considered the owners or holders of debt securities represented by a registered global security under the indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for the registered global security and, if the person is not a participant, on the procedures of the participant through which the person owns its interests, to exercise any rights of a holder under the indenture applicable to the registered global security.

We understand that, under existing industry practices, if we request any action of holders, or if an owner of a beneficial interest in a registered global security desires to give or take any action which a holder is entitled to give or take under the indenture, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and the participants would authorize beneficial owners owning through the participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

Payment of Interest on and Principal of Registered Global Securities

We will make principal, premium, if any, and interest payments on debt securities represented by a registered global security registered in the name of a depository or its nominee to the depository or its nominee as the registered owner of the registered global security. None of Akoustis, the trustee, or any paying agent for debt securities represented by a registered global security will have any responsibility or liability for:

- any aspect of the records relating to, or payments made on account of, beneficial ownership interests in such registered global security;
- maintaining, supervising, or reviewing any records relating to beneficial ownership interests;
- the payments to beneficial owners of the global security of amounts paid to the depository or its nominee; or
- any other matter relating to the actions and practices of the depository, its nominee or any of its participants.

We expect that the depository, upon receipt of any payment of principal, premium or interest in respect of the global security, will immediately credit participants' accounts with payments in amounts proportionate to their beneficial interests in the principal amount of a registered global security as shown on the depository's records. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing instructions and customary practices. This is currently the case with the securities held for the accounts of customers registered in "street name." Such payments will be the responsibility of participants.

Exchange of Registered Global Securities

We may issue debt securities in definitive form in exchange for the registered global security if both of the following occur:

- the depository for any debt securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act; and
- we do not appoint a successor depository within 90 days.

In addition, we may, at any time, determine not to have any of the debt securities of a series represented by one or more registered global securities. In this event, we will issue debt securities of that series in definitive form in exchange for all of the registered global security or securities representing those debt securities.

Covenants by Akoustis

The indenture includes covenants by us, including among other things that we will make all payments of principal and interest at the times and places required. The supplemental indenture establishing each series of debt securities may contain additional covenants, including covenants which could restrict our right to incur additional indebtedness or liens and to take certain actions with respect to our businesses and assets.

Events of Default

Unless otherwise indicated in the applicable prospectus supplement, the following will be events of default under the indenture with respect to each series of debt securities issued under the indenture:

- failure to pay when due any interest on any debt security of that series, continued for 30 days;
- failure to pay when due the principal of, or premium, if any, on, any debt security of that series;
- failure to perform any other covenant or agreement of ours under the indenture or the supplemental indenture with respect to that series or the debt securities of that series, continued for 90 days after written notice to us by the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the series to which the covenant or agreement relates;
- certain events of bankruptcy, insolvency or similar proceedings affecting us; and
- any other event of default specified in any supplemental indenture under which such series of debt securities is issued.

Except as to certain events of bankruptcy, insolvency or similar proceedings affecting us and except as provided in the applicable prospectus supplement, if any event of default shall occur and be continuing with respect to any series of debt securities under the indenture, either the trustee or the holders of at least 25% in aggregate principal amount of outstanding debt securities of such series may accelerate the maturity of all debt securities of such series. Upon certain events of bankruptcy, insolvency or similar proceedings affecting us, the principal, premium, if any, and interest on all debt securities of each series shall be immediately due and payable.

After any such acceleration, but before a judgment or decree based on acceleration has been obtained by the trustee, the holders of a majority in aggregate principal amount of each affected series of debt securities may waive all defaults with respect to such series and rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, have been cured, waived or otherwise remedied.

No holder of any debt securities will have any right to institute any proceeding with respect to the indenture or for any remedy under the indenture, unless such holder shall have previously given to the trustee written notice of a continuing event of default and the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the relevant series shall have made written request and offered indemnity satisfactory to the trustee to institute such proceeding as trustee, and the trustee shall not have received from the holders of a majority in aggregate principal amount of the outstanding debt securities of such series a direction inconsistent with such request and shall have failed to institute such proceeding within 60 days. However, such limitations do not apply to a suit instituted by a holder of a debt security for enforcement of payment of the principal of and premium, if any, or interest on such debt security on or after the respective due dates expressed in such debt security.

Supplemental Indentures

We and the trustee may, at any time and from time to time, without prior notice to or consent of any holders of debt securities, enter into one or more indentures supplemental to the indenture, among other things:

- to add guarantees to or secure any series of debt securities;
- to provide for the succession of another person pursuant to the provisions of the indenture relating to consolidations, mergers and sales of assets and the assumption by such successor of our covenants, agreements, and obligations, or to otherwise comply with the provisions of the indenture relating to consolidations, mergers, and sales of assets;
- to surrender any right or power conferred upon us under the indenture or to add to our covenants further covenants, restrictions, conditions or provisions for the protection of the holders of all or any series of debt securities;
- to cure any ambiguity or to correct or supplement any provision contained in the indenture, in any supplemental indenture or in any debt securities that may be defective or inconsistent with any other provision contained therein;
- to modify or amend the indenture in such a manner as to permit the qualification of the indenture or any supplemental indenture under the Trust Indenture Act;

- to add to or change any of the provisions of the indenture to supplement any of the provisions of the indenture in order to permit the defeasance and discharge of any series of debt securities pursuant to the indenture, so long as any such action does not adversely affect the interests of the holders of debt securities of any series in any material respect;
- to add to, change, or eliminate any of the provisions of the indenture with respect to one or more series of debt securities, so long as any such addition, change or elimination shall not apply to any debt securities of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision;
- to evidence and provide for the acceptance of appointment by a successor or separate trustee; and
- to establish the form or terms of debt securities of any series and to make any change that does not adversely affect the interests of the holders of debt securities.

With the consent of the holders of at least a majority in principal amount of debt securities of each series affected by such supplemental indenture (each series voting as one class), we and the trustee may enter into one or more supplemental indentures for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of the indenture or modifying in any manner the rights of the holders of debt securities of each such series.

Notwithstanding our rights and the rights of the trustee to enter into one or more supplemental indentures with the consent of the holders of debt securities of the affected series as described above, no such supplemental indenture shall, without the consent of the holder of each outstanding debt security of the affected series, among other things:

- change the final maturity of the principal of, or any installment of interest on, any debt securities;
- reduce the principal amount of any debt securities or the rate of interest on any debt securities;
- change the currency in which any debt securities are payable;
- impair the right of the holders to conduct a proceeding for any remedy available to the trustee;
- reduce the percentage in principal amount of any series of debt securities whose holders must consent to an amendment or supplemental indenture;
- modify the ranking or priority of the securities; or
- reduce any premium payable upon the redemption of any debt securities.

Satisfaction and Discharge of the Indenture; Defeasance

Except to the extent set forth in a supplemental indenture with respect to any series of debt securities, we, at our election, may discharge the indenture and the indenture shall generally cease to be of any further effect with respect to that series of debt securities if (a) we have delivered to the trustee for cancellation all debt securities of that series (with certain limited exceptions) or (b) all debt securities of that series not previously delivered to the trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year, and we have deposited with the trustee the entire amount sufficient to pay at maturity or upon redemption all such debt securities.

In addition, we have a “legal defeasance option” (pursuant to which we may terminate, with respect to the debt securities of a particular series, all of our obligations under such debt securities and the indenture with respect to such debt securities) and a “covenant defeasance option” (pursuant to which we may terminate, with respect to the debt securities of a particular series, our obligations with respect to such debt securities under certain specified covenants contained in the indenture). If we exercise our legal defeasance option with respect to a series of debt securities, payment of such debt securities may not be accelerated because of an event of default. If we exercise our covenant defeasance option with respect to a series of debt securities, payment of such debt securities may not be accelerated because of an event of default related to the specified covenants.

We may exercise our legal defeasance option or our covenant defeasance option with respect to the debt securities of a series only if we irrevocably deposit in trust with the trustee cash or U.S. government obligations (as defined in the indenture) for the payment of principal, premium, if any, and interest with respect to such debt securities to maturity or redemption, as the case may be. In addition, to exercise either of our defeasance options, we must comply with certain other conditions, including the delivery to the trustee of an opinion of counsel to the effect that the holders of debt securities of such series will not recognize income, gain or loss for Federal income tax purposes as a result of such defeasance and will be subject to Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such defeasance had not occurred (and, in the case of legal defeasance only, such opinion of counsel must be based on a ruling from the Internal Revenue Service or other change in applicable Federal income tax law).

The trustee will hold in trust the cash or U.S. government obligations deposited with it as described above and will apply the deposited cash and the proceeds from deposited U.S. government obligations to the payment of principal, premium, if any, and interest with respect to the debt securities of the defeased series.

Mergers, Consolidations and Certain Sales of Assets

We may not:

- consolidate with or merge into any other person or entity or permit any other person or entity to consolidate with or merge into us in a transaction in which we are not the surviving entity, or
- transfer, lease or dispose of all or substantially all of our assets to any other person or entity, unless:
 - o the resulting, surviving or transferee entity shall be a corporation organized and existing under the laws of the United States or any state thereof and such resulting, surviving or transferee entity shall expressly assume, by supplemental indenture, executed and delivered in form satisfactory to the trustee, all of our obligations under the debt securities and the indenture;
 - o immediately after giving effect to such transaction (and treating any indebtedness which becomes an obligation of the resulting, surviving or transferee entity as a result of such transaction as having been incurred by such entity at the time of such transaction), no default or event of default would occur or be continuing; and
 - o we shall have delivered to the trustee an officers’ certificate and an opinion of counsel, each stating that such consolidation, merger or transfer and such supplemental indenture (if any) comply with the indenture.

The phrase “substantially all” of our assets will likely be interpreted under applicable state law and will be dependent upon particular facts and circumstances. As a result, there may be a degree of uncertainty in ascertaining whether a sale or transfer of “substantially all” of our assets has occurred.

Governing Law

The indenture and the debt securities will be governed by the laws of the State of New York.

No Personal Liability of Directors, Officers, Employees and Stockholders

No director, officer, incorporator or stockholder of Akoustis, as such, shall have any liability for any obligations of Akoustis under the debt securities or the indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation, solely by reason of his, her, or its status as director, officer, incorporator or stockholder of Akoustis. By accepting a debt security, each holder waives and releases all such liability, but only such liability. The waiver and release are part of the consideration for issuance of the debt securities. Nevertheless, such waiver may not be effective to waive liabilities under the federal securities laws and it has been the view of the SEC that such a waiver is against public policy.

Conversion or Exchange Rights

Any debt securities offered hereby may be convertible into or exchangeable for shares of our equity or other securities. The terms and conditions of such conversion or exchange will be set forth in the applicable prospectus supplement. Such terms may include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding our ability or that of the holder to convert or exchange the debt securities;
- events requiring adjustment to the conversion or exchange price; and
- provisions affecting conversion or exchange in the event of our redemption of such debt securities.

Concerning the Trustee

The indenture provides that there may be more than one trustee with respect to one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust under a supplemental indenture separate and apart from the trust administered by any other trustee under such indenture. Except as otherwise indicated in this prospectus or any prospectus supplement, any action permitted to be taken by a trustee may be taken by the trustee only with respect to the one or more series of debt securities for which it is the trustee under an indenture. Any trustee under the indenture or a supplemental indenture may resign or be removed with respect to one or more series of debt securities. All payments of principal of, premium, if any, and interest on, and all registration, transfer, exchange authentication and delivery (including authentication and delivery on original issuance of the debt securities) of, the debt securities of a series will be effected by the trustee with respect to such series at an office designated by the trustee.

The indenture contains limitations on the right of the trustee, should it become a creditor of Akoustis, to obtain payment of claims in certain cases or to realize on certain property received in respect of any such claim as security or otherwise. If the trustee acquires an interest that conflicts with any duties with respect to the debt securities, the trustee is required to either resign or eliminate such conflicting interest to the extent and in the manner provided by the indenture.

DESCRIPTION OF WARRANTS WE MAY OFFER

We may issue warrants for the purchase of debt securities, preferred stock or common stock. Warrants may be issued independently or together with debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Any issue of warrants will be governed by the terms of the applicable form of warrant and any related warrant agreement which we will file with the SEC and they will be incorporated by reference to the registration statement of which this prospectus is a part on or before the time we issue any warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the currency or currencies (including composite currencies) in which the price of such warrants may be payable;
- the terms of the securities purchasable upon exercise of such warrants and the procedures and conditions relating to the exercise of such warrants;
- the price at which the securities purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants will commence and the date on which such right shall expire;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;
- if applicable, the minimum or maximum amount of such warrants that may be exercised at any one time;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange or exercise of such warrants.

The prospectus supplement relating to any warrants to purchase equity securities may also include, if applicable, a discussion of certain U.S. federal income tax and ERISA considerations.

Warrants for the purchase of preferred stock and common stock will be offered and exercisable for U.S. dollars only.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement.

After the close of business on the expiration date, unexercised warrants will become void. We will specify the place or places where, and the manner in which, warrants may be exercised in the applicable prospectus supplement.

Prior to the exercise of any warrants to purchase debt securities, preferred stock or common stock, holders of the warrants will not have any of the rights of holders of the debt securities, preferred stock or common stock purchasable upon exercise.

As of May 4, 2020, we have issued warrants to purchase a total of 419,314 shares of common stock at a weighted average exercise price of \$5.70 per share. Warrants to purchase a total of 12,501 shares of common stock expire in May 2020 and have an exercise price of \$1.50 per share. Warrants to purchase a total of 29,000 shares of common stock expire in April 2021 and have an exercise price of \$1.60 per share. Warrants to purchase a total of 177,226 shares of common stock expire in December 2021 through February 2022 and have an exercise price of \$5.00 per share. Warrants to purchase a total of 46,410 shares of common stock expire in May 2022 and have an exercise price of \$9.00 per share. Warrants to purchase (i) a total of 88,507 shares of common stock at an exercise price of \$5.50 per share and (ii) a total of 65,670 shares of common stock at an exercise price of \$8.16 per share expire in June 2023.

DESCRIPTION OF UNITS WE MAY OFFER

We may issue units composed of any combination of our debt securities, common stock, preferred stock and warrants. We will issue each unit so that the holder of the unit is also the holder of each security included in the unit. As a result, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

The following description is a summary of selected provisions relating to units that we may offer. The summary is not complete. When units are offered in the future, a prospectus supplement, information incorporated by reference or a free writing prospectus, as applicable, will explain the particular terms of those securities and the extent to which these general provisions may apply. The specific terms of the units as described in a prospectus supplement or free writing prospectus will supplement and, if applicable, may modify or replace the general terms described in this section.

The specific terms of any units offered will be set forth in a unit agreement, collateral arrangements and depositary arrangements, if applicable. We will file each of these documents, as applicable, with the SEC and they will be incorporated by reference to the registration statement of which this prospectus is a part on or before the time we issue a series of units. See “Where You Can Find More Information” and “Incorporation by Reference” below for information on how to obtain a copy of a document when it is filed.

The applicable prospectus supplement or free writing prospectus may describe:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions for the issuance, payment, settlement, transfer, or exchange of the units or of the securities composing the units;
- whether the units will be issued in fully registered or global form; and
- any other terms of the units.

The applicable provisions described in this section, as well as those described under “— Description of Debt Securities and Guarantees We May Offer,” “— Description of Common Stock We May Offer,” “— Description of Preferred Stock We May Offer” and “— Description of Warrants We May Offer” above, will apply to each unit and to each security included in each unit, respectively.

DESCRIPTION OF RIGHTS WE MAY OFFER

We may issue rights to purchase our debt securities, common stock, preferred stock or other securities. These rights may be issued independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the rights in such offering. In connection with any offering of such rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

Each series of rights will be issued under a separate rights agreement which we will enter into with a bank or trust company, as rights agent, all which will be set forth in the relevant offering material. The rights agent will act solely as our agent in connection with the certificates relating to the rights and will not assume any obligation or relationship of agency or trust with any holders of rights certificates or beneficial owners of rights.

The following description is a summary of selected provisions relating to rights that we may offer. The summary is not complete. When rights are offered in the future, a prospectus supplement, information incorporated by reference or a free writing prospectus, as applicable, will explain the particular terms of those securities and the extent to which these general provisions may apply. The specific terms of the rights as described in a prospectus supplement or free writing prospectus will supplement and, if applicable, may modify or replace the general terms described in this section.

The specific terms of any units offered will be set forth in a rights agreement and the rights certificate, as applicable. We will file each of these documents, as applicable, with the SEC and they will be incorporated by reference to the registration statement of which this prospectus is a part on or before the time we issue a series of rights. See “Where You Can Find More Information” and “Incorporation by Reference” below for information on how to obtain a copy of a document when it is filed.

The applicable prospectus supplement or free writing prospectus may describe:

- in the case of a distribution of rights to our stockholders, the date of determining the stockholders entitled to the rights distribution;
- in the case of a distribution of rights to our stockholders, the number of rights issued or to be issued to each stockholder;
- the exercise price payable for the underlying debt securities, common stock, preferred stock or other securities upon the exercise of the rights;
- the number and terms of the underlying debt securities, common stock, preferred stock or other securities which may be purchased per each right;
- the extent to which the rights are transferable;
- the date on which the holder’s ability to exercise the rights shall commence, and the date on which the rights shall expire;
- the extent to which the rights may include an over-subscription privilege with respect to unsubscribed securities;
- if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of such rights; and
- any other terms of the rights, including, but not limited to, the terms, procedures, conditions and limitations relating to the exchange and exercise of the rights.

The provisions described in this section, as well as those described under “— Description of Debt Securities and Guarantees We May Offer,” “— Description of Common Stock We May Offer” and “— Description of Preferred Stock We May Offer” above, will apply, as applicable, to any rights we offer.

**CERTAIN PROVISIONS OF DELAWARE LAW AND OF THE COMPANY'S
CERTIFICATE OF INCORPORATION AND BYLAWS**

The following paragraphs regarding certain provisions of the DGCL, the Certificate of Incorporation, and the Bylaws are summaries of the material terms thereof and do not purport to be complete. We urge you to read the applicable prospectus supplements, any related free writing prospectuses related to a security that we may offer under this prospectus, the DGCL, and the Certificate of Incorporation and Bylaws. Copies of the Certificate of Incorporation and Bylaws are on file with the SEC as exhibits to filings previously made by us. See "Where You Can Find More Information."

General

The provisions of the DGCL, and the Certificate of Incorporation and Bylaws could have the effect of discouraging others from attempting an unsolicited offer to acquire our company. Such provisions may also have the effect of preventing changes in our management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Authorized but Unissued Shares

The authorized but unissued shares of our common stock and our preferred stock are available for future issuance without any further vote or action by our stockholders. These additional shares may be utilized for a variety of corporate purposes, including future public or private offerings to raise additional capital, corporate acquisitions and employee benefit plans. The existence of authorized but unissued shares of our common stock and our preferred stock could render more difficult or discourage an attempt to obtain control over us by means of a proxy contest, tender offer, merger or otherwise.

Special Meeting of Stockholders and Advance Notice Requirements for Stockholder Proposals

The Bylaws require that special meetings of stockholders be called only by a majority of our entire Board of Directors, by the chairman of the board, the Chief Executive Officer, the President, or the Secretary. In addition, the Bylaws provide that candidates for director may be nominated and other business brought before an annual meeting only by the Board of Directors or by a stockholder who gives written notice to us not less than 90 days, nor more than 120 days, prior to the first anniversary of the preceding year's annual meeting, subject to certain exceptions. Such stockholder's notice must set forth certain information required by the Bylaws. These provisions may have the effect of deterring unsolicited offers to acquire our company or delaying stockholder actions, even if they are favored by the holders of a majority of our outstanding voting securities.

Business Combinations

The DGCL generally prohibits a corporation from engaging in any business combination with any interested stockholder for a three-year period following the time that the stockholder became an interested stockholder, unless:

- prior to such time, the Board of Directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder;
- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, excluding certain shares; or
- at or subsequent to that time, the business combination is approved by our board of directors and by the affirmative vote of holders of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Generally, a “business combination” includes a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. Subject to certain exceptions, an “interested stockholder” is a person who, together with that person’s affiliates and associates, owns, or within the previous three years owned, 15% or more of our voting stock.

Under certain circumstances, this provision could make it more difficult for a person who would be an “interested stockholder” to effect various business combinations with a corporation for a three-year period. However, this provision generally does not apply to a corporation that does not have a class of voting stock that is listed on a national securities exchange or held of record by more than 2,000 stockholders. Accordingly, this provision does not currently apply to us.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus to one or more underwriters or dealers for public offering, through agents, directly to one or more purchasers or through a combination of any such methods of sale. The name of any such underwriters, dealers or agents involved in the offer and sale of the securities, the amounts underwritten and the nature of its obligation to take the securities will be specified in the applicable prospectus supplement. We have reserved the right to sell the securities directly to investors on our own behalf in those jurisdictions where we are authorized to do so. The sale of the securities may be effected in one or more transactions (a) on any national or international securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, (b) in the over-the-counter market, (c) in transactions otherwise than on such exchanges or in the over-the-counter market or (d) through the writing of options. Each time that we sell securities covered by this prospectus, we will provide a prospectus supplement or supplements that will describe the method of distribution and set forth the terms and conditions of the offering of such securities, including the offering price of the securities and the proceeds to us, if applicable.

We and our agents and underwriters may offer and sell the securities at a fixed price or prices that may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. The securities may be offered on an exchange, which will be disclosed in the applicable prospectus supplement. We may, from time to time, authorize dealers, acting as our agents, to offer and sell the securities upon such terms and conditions as set forth in the applicable prospectus supplement. We may also sell the securities offered by any applicable prospectus supplement in “at-the-market offerings” within the meaning of Rule 415 of the Securities Act of 1933, to or through a market maker or into an existing trading market, on an exchange or otherwise.

If we use underwriters to sell securities, we will enter into an underwriting agreement with them at the time of the sale to them. In connection with the sale of the securities, underwriters or agents may receive compensation from us in the form of underwriting discounts or commissions and may also receive commissions from purchasers of the securities for whom they may act as agent. The names of any underwriters, any underwriting compensation paid by us to underwriters or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers, will be set forth in the applicable prospectus supplement to the extent required by applicable law. Underwriters may sell the securities to or through dealers, and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions (which may be changed from time to time) from the purchasers for whom they may act as agents. If a dealer is utilized in the sale of the securities being offered by this prospectus, the securities will be sold to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. Unless otherwise indicated in the applicable prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase debt securities as a principal, and may then resell the debt securities at varying prices to be determined by the dealer.

If so indicated in the prospectus supplement, we will authorize underwriters, dealers or agents to solicit offers by certain specified institutions to purchase offered securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. Such contracts will be subject to any conditions set forth in the applicable prospectus supplement and the prospectus supplement will set forth the commission payable for solicitation of such contracts. The underwriters and other persons soliciting such contracts will have no responsibility for the validity or performance of any such contracts. Offers to purchase the securities being offered by this prospectus may also be solicited directly.

Underwriters, dealers and agents may be entitled, under agreements entered into with us, to indemnification against and contribution towards certain civil liabilities, including any liabilities under the Securities Act.

To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. These may include over-allotment, stabilization, syndicate short covering transactions and penalty bids. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

Any securities other than our common stock issued hereunder may be new issues of securities with no established trading market. Any underwriters or agents to or through whom such securities are sold for public offering and sale may make a market in such securities, but such underwriters or agents will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of the trading market for any such securities. The amount of expenses expected to be incurred by us in connection with any issuance of securities will be set forth in the applicable prospectus supplement. Certain of the underwriters, dealers or agents and their associates may engage in transactions with, and perform services for, us and certain of our affiliates in the ordinary course of business.

During such time as we may be engaged in a distribution of the securities covered by this prospectus we are required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes us, any affiliated purchasers, and any broker-dealer or other person who participates in such distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase, any security which is the subject of the distribution until the entire distribution is complete. Regulation M also restricts bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of our shares of common stock.

The specific terms of any lock-up provisions in respect of any given offering will be described in the applicable prospectus supplement.

The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business for which they receive compensation.

LEGAL MATTERS

The validity and legality of the securities offered hereby and certain other legal matters will be passed upon for the Company by K&L Gates LLP, Charlotte, North Carolina.

EXPERTS

The consolidated financial statements of Akoustis Technologies, Inc. and its wholly-owned subsidiary included in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2019 and the Company's internal control over financial reporting have been audited by Marcum LLP, an independent registered public accounting firm, as stated in its report which is incorporated by reference herein, and has been so incorporated in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports, proxy statements and other information with the SEC under the Exchange Act. You can read our SEC filings, including the registration statement, at the SEC's website at www.sec.gov, which contains reports, proxy and information statements and other information regarding issuers that file electronically with the SEC. Our web site is located at www.akoustis.com. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus.

We will provide, upon written or oral request, without charge to you, including any beneficial owner to whom this prospectus is delivered, a copy of any or all of the documents incorporated herein by reference other than the exhibits to those documents, unless the exhibits are specifically incorporated by reference into the information that this prospectus incorporates. You should direct a request for copies to Akoustis Technologies, Inc., 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078; Telephone: (704) 997-5735.

INCORPORATION BY REFERENCE

The SEC permits us to "incorporate by reference" the information and reports we file with it. This means that we can disclose important information to you by referring to another document. The information that we incorporate by reference is considered to be part of this prospectus, and later information that we file with the SEC automatically updates and supersedes this information. We incorporate by reference the documents listed below, except to the extent information in those documents is different from the information contained in this prospectus, and all future documents filed with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act until we terminate the offering of these securities:

- Our Annual Report on Form 10-K for the fiscal year ended June 30, 2019, which was filed on [September 13, 2019](#);
- Our Quarterly Reports on Form 10-Q for the quarterly period ended September 30, 2019, which was filed on [November 7, 2019](#), for the quarterly period ended December 31, 2019, which was filed on [January 31, 2020](#), and for the quarterly period ended March 31, 2020, which was filed on [May 1, 2020](#);
- Our Current Reports on Form 8-K filed on [October 29, 2019](#), [November 6, 2019](#), [December 16, 2019](#) and [April 21, 2020](#);
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended June 30, 2019 from our definitive proxy statement on [Schedule 14A](#) (other than information furnished rather than filed), filed with the SEC on September 24, 2019; and
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) (File No. 001-38029) filed with the SEC on March 10, 2017, including any amendment or report filed for the purpose of updating such description.

We also incorporate by reference any future filings made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made on or after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus and will become a part of this prospectus from the date that such documents are filed with the SEC. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to:

Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
Attention: Corporate Secretary
Telephone: (704) 997-5735

Copies of the above reports may also be accessed from our website at ir.akoustis.com/sec-filings. We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement. Accordingly, you should not rely on any information that is not contained or incorporated by reference in this prospectus supplement and the accompanying base prospectus. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.



\$150,000,000

**Common Stock
Preferred Stock
Debt Securities
Warrants
Rights
Units**

PROSPECTUS

, 2020

The information in this prospectus supplement is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus supplement is not an offer to sell nor does it seek an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

Subject to Completion, dated May 8, 2020.

PROSPECTUS SUPPLEMENT
(to the Prospectus dated _____, 2020)



Common Stock

Having an Aggregate Offering Price of up to \$50,000,000

We have entered into an ATM Equity Offering Sales Agreement (the "Sales Agreement") with BofA Securities, Inc. and Piper Sandler & Co. (each, a "Sales Agent" and together, the "Sales Agents") relating to shares of our common stock, par value \$0.001 per share, offered by this prospectus supplement and accompanying prospectus. In accordance with the terms of the Sales Agreement, we may from time to time offer and sell shares of our common stock (the "Shares") having an aggregate offering price of up to \$50,000,000 through the Sales Agents.

Sales of Shares, if any, may be made by means of transactions that are deemed to be "at the market" offerings as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"), including block trades and sales made in ordinary brokers' transactions on the Nasdaq Capital Market ("Nasdaq") or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. We will instruct only one Sales Agent to sell Shares on any given trading day. The compensation payable to a Sales Agent for sales of Shares with respect to which such Sales Agent acts as sales agent shall be up to 3.0% of the gross sales price for such Shares.

Under the terms of the Sales Agreement, we also may sell Shares to either or both of the Sales Agents as principal for their own accounts. If we sell shares to any Sales Agent or Agents as principal, we will enter into a separate terms agreement with such Sales Agent or Agents setting forth the terms of such transaction, and we will describe this agreement in a separate pricing supplement. In connection with the sale of the Shares on our behalf, the Sales Agents may be deemed "underwriters" within the meaning of the Securities Act and the compensation paid to the Sales Agents may be deemed to be underwriting commissions or discounts.

The Sales Agents are not required to sell any specific number or dollar amount of Shares, but, if instructed to do so and subject to the terms and conditions of the Sales Agreement, the applicable Sales Agent will use its commercially reasonable efforts to sell all of the designated Shares in accordance with our instruction.

Our common stock trades on the Nasdaq Capital Market under the symbol "AKTS." On May 7, 2020, the last reported sale price of our common stock on the Nasdaq Capital Market was \$8.38 per share.

Investing in our securities involves a high degree of risk. Before making an investment decision, you should carefully review and consider all of the information set forth in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein, including the risks and uncertainties described under "Risk Factors" beginning on page S-5 of this prospectus supplement and the risk factors incorporated by reference into this prospectus supplement and the accompanying prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus supplement or the accompanying prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

BofA Securities

Piper Sandler

The date of this prospectus supplement is _____, 2020.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying base prospectus are part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”) utilizing a “shelf” registration process. By using a shelf registration statement, we may offer shares of our common stock having an aggregate offering price of up to \$50,000,000 from time to time under this prospectus supplement at prices and on terms to be determined by market conditions at the time of offering.

We provide information to you about this offering of our common stock in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus supplement,” we are referring to both documents combined. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on this prospectus supplement. To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in any document incorporated by reference in this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement. **You should carefully read this prospectus supplement, the accompanying prospectus and the information and documents incorporated herein by reference herein and therein as well as any free writing prospectus we have authorized for use in connection with this offering, before making an investment decision. See “Incorporation of Certain Documents by Reference” and “Where You Can Find More Information” in this prospectus supplement and in the accompanying prospectus**

Neither we nor the Sales Agents have authorized anyone to provide you with additional or different information. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. We are offering to sell shares of our common stock, and seeking offers to buy shares of our common stock, only in jurisdictions where offers and sales are permitted. You should not assume that the information contained in this prospectus supplement, the accompanying prospectus or any free writing prospectus is accurate as of any date other than the dates shown in these documents or that any information we have incorporated by reference herein is accurate as of any date other than the date of the document incorporated by reference. Our business, financial condition, results of operations and prospects may have changed since such dates.

Unless otherwise stated or the context requires otherwise, all references in this prospectus supplement to the “Company,” “we,” “us,” “our” and “Akoustis” refer to Akoustis Technologies, Inc., a Delaware corporation, and its wholly-owned subsidiary. We operate under a number of trademarks, including, among others, “Akoustis” and “XBAW,” which are registered under applicable intellectual property laws. All other trademarks, trade names and service marks included or incorporated by reference into this prospectus supplement, the accompanying prospectus and any free writing prospectus are the property of their respective owners.

PROSPECTUS SUPPLEMENT SUMMARY

This prospectus supplement summary highlights information contained elsewhere in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein. This summary does not contain all of the information that you should consider before deciding to invest in our securities. You should read this entire prospectus supplement and the accompanying prospectus carefully, including the section entitled "Risk Factors" in this prospectus supplement and our consolidated financial statements and the related notes and the other information incorporated by reference into this prospectus supplement and the accompanying prospectus, before making an investment decision.

Our Company

Akoustis® is an emerging commercial company focused on developing, designing, and manufacturing innovative RF filter products for the wireless industry, including for products such as smartphones and tablets, network infrastructure equipment, WiFi Customer Premise Equipment ("CPE") and defense applications. Filters are critical in selecting and rejecting signals, and their performance enables differentiation in the modules defining the RF front-end ("RFFE"). Located between the device's antenna and its digital backend, the "RFFE" is the circuitry that performs the analog signal processing and contains components such as amplifiers, filters and switches. We have developed a proprietary microelectromechanical system ("MEMS") based bulk acoustic wave ("BAW") technology and a unique manufacturing process flow, called "XBAW", for our filters produced for use in RFFE modules. Our XBAW™ filters incorporate optimized high purity piezoelectric materials for high power, high frequency and wide bandwidth operation.

We believe owning the core resonator device technology, manufacturing facility and intellectual property ("IP") to produce our RF filter designs is the most direct and efficient means of delivering our solutions to the market. Furthermore, our technology is based upon bulk-mode acoustic resonance, which we believe is superior to surface-mode resonance for high-band applications that include 4G/LTE, 5G, WiFi, and defense applications. Although some of our target customers utilize or make the RFFE module, they may lack access to critical ultra-high-band (UHB) filter technology needed to compete in high frequency applications. We seek to design, manufacture, and market our RF filter products to mobile phone original equipment manufacturers ("OEMs"), defense OEMs, network infrastructure OEMs, and WiFi CPE OEM's to enable broader competition among the front-end module manufacturers. We operate as a "pure-play" RF filter supplier and align with the front-end module manufacturers who seek to acquire high performance filters to expand their module business.

We currently build high performance RF filter circuits, using our first generation XBAW™ wafer process, in our 120,000-square foot wafer-manufacturing facility located in Canandaigua, New York, which we acquired in June 2017. As of April 24, 2020, our intellectual property (IP) portfolio included 31 patents, including a blocking patent that we have licensed from Cornell University. Additionally, as of April 24, 2020, we have 61 pending patent applications. These patents cover our XBAW™ RF filter technology from raw materials through the system architectures. Where possible, we leverage both federal and state level R&D grants to support development and commercialization of our technology.

We are developing RF filters for 4G/LTE, 5G, WiFi and defense bands using our proprietary resonator device models and product design kits (PDKs). As we qualify our first RF filter products, we are engaging with target customers to evaluate our filter solutions. Our initial designs target UHB, sub 7 GHz 4G/LTE, 5G, WiFi and defense bands. Since Akoustis owns its core technology and controls access to its intellectual property, we expect to offer several ways to engage with potential customers. First, we intend to engage with multiple wireless markets, providing standardized filters that we design and offer as standard catalog components. Second, we expect to deliver unique filters to customer-supplied specifications, which we will design and fabricate on a customized basis. Finally, we may offer our models and design kits for our customers to design their own filters utilizing our proprietary technology.

We have earned minimal revenue from operations since inception, and we have funded our operations primarily with development contracts, RF filter and production orders, government grants, MEMS foundry and engineering services, and sales of debt and equity securities. We have incurred losses totaling approximately \$93.5 million from inception through March 31, 2020. These losses are primarily the result of material and processing costs associated with developing and commercializing our technology, as well as personnel costs, professional fees (primarily accounting and legal), and other general and administrative (“G&A”) expenses. We expect to continue to incur substantial costs for commercialization of our technology on a continuous basis because our business model involves materials and solid-state device technology development and engineering of catalog and custom filter design solutions.

Plan of Operation

We plan to commercialize our technology by designing and manufacturing single-band and multi-band BAW RF filter solutions in our New York wafer fabrication facility. We expect our filter solutions will address problems (such as loss, bandwidth, power handling, and isolation) created by the growing number of frequency bands in the RFFE of mobile devices, infrastructure and premise equipment to support 4G/LTE, 5G, and WiFi. We have prototyped our first single-band low-loss BAW filter designs for 4G/LTE frequency bands, which are dominated by competitive BAW solutions and historically cannot be addressed with low-band, lower power handling surface acoustic wave (“SAW”) technology.

To succeed, we must convince mobile phone OEMs, RFFE module manufacturers, cellular infrastructure OEMs, WiFi CPE OEMs and military customers to use our XBAW™ filter technology in their systems and modules. However, since there are two dominant BAW filter suppliers in the industry that have high-band technology, and both utilize such technology as a competitive advantage at the module level, we expect customers that lack access to high-band filter technology will be open to engage with our pure-play filter company.

We plan to pursue RF filter design and R&D development agreements and potentially joint ventures with target customers and other strategic partners, although we cannot guarantee we will be successful in these efforts. These types of arrangements may subsidize technology development costs and qualification, filter design costs, and offer complementary technology and market intelligence and other avenues to revenue. However, we intend to retain ownership of our core technology, intellectual property, designs, and related improvements. We expect to pursue development of catalog designs for multiple customers and to offer such catalog products in multiple sales channels.

Commercial development of new technology, by its nature, is unpredictable. Although we will undertake development efforts with commercially reasonable diligence, there can be no assurance that our current cash position will be sufficient to enable us to commercialize our technology to the extent needed to create future sales to sustain operations. If our current cash is insufficient for these purposes, we are unable to source additional funds on terms acceptable to the Company (or at all), or we experience costs in excess of estimates to continue our R&D plan, it is possible that we would not have sufficient resources to continue as a going concern and we may be required to curtail or suspend our operations. Even if we are able to source sufficient funds to continue as a going concern, our technology may not be accepted, we may never earn revenues sufficient to support our operations, and we may never be profitable.

Company Information

Our principal executive offices are located at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078. Our telephone number is (704) 997-5735. Our website address is www.akoustis.com. The information on, or that can be accessed through, our website is not part of this prospectus supplement and is not incorporated by reference in this prospectus supplement.

The Offering

The following is a brief summary of some of the terms of the offering and is qualified in its entirety by reference to the more detailed information appearing elsewhere in this prospectus supplement and the accompanying prospectus. For a more complete description of the terms of our common stock, see "Description of Common Stock We May Offer" in the accompanying prospectus.

Common stock offered by us	Shares of common stock having an aggregate offering price of up to \$50,000,000.
Manner of offering	<p>Sales of the Shares, if any, may be made by means that are deemed to be "at the market" offerings as defined in Rule 415 under the Securities Act, including block trades and sales made in ordinary brokers' transactions on Nasdaq or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. We will instruct only one Sales Agent to sell Shares on any given trading day. If instructed by us to do so, and subject to the terms and conditions of the Sales Agreement, the applicable Sales Agent will use its commercially reasonable efforts to sell on our behalf all of the designated Shares as instructed. See "Plan of Distribution."</p> <p>We may also sell the Shares to either or both of the Sales Agents as principals for their own account, at a price per share agreed upon at the time of sale. If we sell shares to either or both of the Sales Agents as principal, we will enter into a separate terms agreement setting forth the terms of such transaction, and we will describe the agreement in a pricing supplement.</p>
Use of proceeds	We intend to use the net proceeds of this offering, if any, after deducting the Sales Agents' commissions and related offering expenses payable by us, for general corporate purposes. See "Use of Proceeds."
Risk factors	Investing in our common stock involves a high degree of risk. You should carefully consider the information under "Risk Factors" in this prospectus supplement and the other risks identified in the documents included or incorporated by reference in this prospectus supplement and the accompanying prospectus before deciding to invest in our common stock.
Exchange Listing	Our common stock is traded on the Nasdaq under the symbol "AKTS."

RISK FACTORS

Investing in our common stock involves a high degree of risk. Before purchasing our common stock, you should read and consider carefully the following risk factors as well as the risk factors described under the section captioned "Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended June 30, 2019, as filed with the SEC on September 13, 2019, and subsequently filed Quarterly Reports on Form 10-Q, which are incorporated by reference in this prospectus supplement and the accompanying prospectus, together with the other information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus, including our consolidated financial statements and the related notes. Each of these risk factors, either alone or taken together, could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our common stock. There may be additional risks that we do not presently know of or that we currently believe are immaterial, which could also impair our business and financial position. If any of the events described below were to occur, our financial condition, our ability to access capital resources, our results of operations and/or our future growth prospects could be materially and adversely affected and the market price of our common stock could decline. As a result, you could lose some or all of any investment you may make in our common stock.

Risks Related to this Offering and Our Common Stock

Our common stock has been thinly traded and our share price has been volatile Our common stock has traded on the Nasdaq Capital Market, under the symbol "AKTS," since March 13, 2017. Since that date, our common stock has at times been relatively thinly traded and subject to price volatility. There can be no assurance that we will be able to successfully maintain a liquid market for our common stock. The stock market, and development-stage public companies in particular, have been subject to extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of such companies. If we are unable to develop and maintain a liquid market for our common stock, you may not be able to sell your common stock at prices you consider to be fair or at times that are convenient for you, or at all. This situation may be attributable to a number of factors, including but not limited to the fact that we are a development-stage company that is relatively unknown to stock analysts, stock brokers, institutional investors, and others in the investor community. In addition, investors may be risk averse to investments in development-stage companies. The low trading volume is outside of our control and may not increase or, if it increases, may not be maintained. In addition, following periods of volatility in the market price of a company's securities, litigation has often been brought against that company and we may become the target of litigation as a result of price volatility. Litigation could result in substantial costs and divert our management's attention and resources from our business. This could have a material adverse effect on our business, results of operations and financial condition.

There is no certainty regarding the net proceeds to the Company. There is no certainty that gross proceeds of \$50,000,000 will be raised in this offering. The Sales Agents have agreed to use their commercially reasonable efforts to sell the Shares on the Company's behalf if and as instructed by the Company, or to purchase the Shares as principals from time to time, if agreed pursuant to a separate terms agreement. However, the Company is not required to request the sale of the maximum amount offered or any amount and, if the Company requests a sale, the Sales Agents are not obligated to purchase any Shares that are not sold. As a result of the offering being made on a commercially reasonable efforts basis with no minimum, and only as requested by the Company, the Company may raise substantially less than the maximum total offering amount or nothing at all.

Our management will have broad discretion over the use of the net proceeds, if any, from this offering which we may not use effectively or in a manner with which you agree. Our management will have broad discretion as to the use of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of this offering. Accordingly, you will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the proceeds will be invested in a way that does not yield a favorable, or any, return for our Company.

Stockholders may experience dilution of their ownership interests because of the future issuance of additional shares of our common or preferred stock or other securities that are convertible into or exercisable for our common or preferred stock. In the future, we may issue our authorized but previously unissued equity securities, resulting in the dilution of the ownership interests of our stockholders. The Company is authorized to issue an aggregate of 100,000,000 shares of common stock and 5,000,000 shares of preferred stock. We may issue additional shares of our common stock or other securities that are convertible into or exercisable for our common stock in connection with hiring or retaining employees, future acquisitions, future sales of our securities for capital raising purposes, or for other business purposes. In addition, as of May 4, 2020, warrants and options to purchase 419,314 and 2,212,915 shares, respectively, of our common stock were outstanding. Additionally, the aggregate principal amount of our outstanding convertible notes were convertible into approximately 4.96 million shares of common stock on such date. The future issuance of additional shares of our common stock may create downward pressure on the trading price of the common stock. We will need to raise additional capital in the near future to meet our working capital needs, and there can be no assurance that we will not be required to issue additional shares, warrants or other convertible securities in the future in conjunction with these capital raising efforts, including at a price (or exercise prices) below the price you paid for your stock.

We do not anticipate paying dividends on our common stock Cash dividends have never been declared or paid on our common stock, and we do not anticipate such a declaration or payment for the foreseeable future. We expect to use future earnings, if any, to fund business growth. Furthermore, the indentures governing our outstanding convertible notes prohibits us from declaring or paying any dividend or making any other payment or distribution on account of our capital stock. Therefore, stockholders will not receive any funds absent a sale of their shares of common stock. If we do not pay dividends, our common stock may be less valuable because a return on your investment will only occur if our stock price appreciates. We cannot assure stockholders that our stock price will appreciate or that they will receive a positive return on their investment if and when they sell their shares.

If securities or industry analysts issue an adverse opinion regarding our stock, our stock price and trading volume could decline.The trading market for our common stock is influenced by the research and reports that securities or industry analysts may publish about us, our business, our market or our competitors. If any of the analysts who may cover us adversely change its recommendation regarding our common stock, or provide more favorable relative recommendations about our competitors, the trading price of our common stock could decline. If any analyst who may cover us were to cease coverage of our Company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which in turn could cause the trading price of our common stock or trading volume to decline.

The common stock is equity and is subordinate to our existing and future indebtedness, including our outstanding 6.5% Convertible Senior Secured Notes due 2023 and 6.5% Convertible Senior Notes due 2023, and preferred stock. Shares of the common stock are equity interests in our Company and do not constitute indebtedness. As such, shares of the common stock will rank junior to all indebtedness, including our outstanding 6.5% Convertible Senior Secured Notes due 2023 and 6.5% Convertible Senior Notes due 2023, and other non-equity claims on our Company with respect to assets available to satisfy claims on our Company, including in a liquidation of our Company. Additionally, our Board of Directors is authorized to issue series of preferred stock without any action on the part of shareholders of our common stock. Holders of our common stock are subject to the prior dividend, liquidation preferences, terms of redemption, conversion rights and voting rights, if any, of any holders of our preferred stock or depositary shares representing such preferred stock then outstanding.

FORWARD-LOOKING STATEMENTS

This prospectus supplement, the accompanying prospectus and documents we have filed with the SEC that are incorporated by reference herein and therein contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the “Exchange Act”). In addition, from time to time we or our representatives have made or will make forward-looking statements in various other filings that we make with the SEC or in other documents, including press releases or other similar announcements. Any and all statements contained in this prospectus supplement and the accompanying prospectus that are not statements of historical fact may be deemed forward-looking statements. Terms such as “may,” “will,” “might,” “would,” “should,” “could,” “project,” “forecast,” “estimate,” “predict,” “potential,” “strategy,” “anticipate,” “attempt,” “develop,” “plan,” “help,” “seek,” “believe,” “continue,” “intend,” “expect,” “future,” and terms of similar import (including the negative of any of the foregoing) may identify forward-looking statements. However, not all forward-looking statements may contain one or more of these identifying terms. Forward-looking statements in this prospectus supplement, the accompanying prospectus and documents we have filed with the SEC that are incorporated by reference herein and therein may include, without limitation, statements regarding (i) the plans and objectives of management for future operations, including plans or objectives relating to the development of commercially viable radio frequency (“RF”) filters, (ii) projections of income (including income/loss), earnings (including earnings/loss) per share, capital expenditures, dividends, capital structure or other financial items, (iii) our future financial performance, including any such statement contained in this management’s discussion and analysis of financial condition or in the results of operations included pursuant to the rules and regulations of the SEC, (iv) our ability to efficiently utilize cash and cash equivalents to support our operations for a given period of time, (v) our ability to engage customers while maintaining ownership of our intellectual property, and (vi) the assumptions underlying or relating to any statement described in (i), (ii), (iii), (iv) or (v) above.

Forward-looking statements are not meant to predict or guarantee actual results, performance, events or circumstances and may not be realized because they are based upon our current projections, plans, objectives, beliefs, expectations, estimates and assumptions and are subject to a number of risks and uncertainties and other influences, many of which are beyond our control. Actual results and the timing of certain events and circumstances may differ materially from those described by the forward-looking statements as a result of these risks and uncertainties. Factors that may influence or contribute to the inaccuracy of the forward-looking statements or cause actual results to differ materially from expected or desired results may include, without limitation:

- our inability to obtain adequate financing and sustain our status as a going concern,
- our limited operating history,
- our inability to generate revenues or achieve profitability,
- the impact of the COVID-19 pandemic on our operations financial condition and the worldwide economy,
- our inability to service the debt represented by the \$25.0 million aggregate principal amount of our senior convertible notes issued in calendar year 2018,
- our failure to remediate the material weaknesses in our internal control over financial reporting,
- the results of our R&D activities,
- our inability to achieve acceptance of our products in the market,
- general economic conditions, including upturns and downturns in the industry,
- risks related to doing business in foreign countries,
- any security breaches or other disruptions compromising our proprietary information and exposing us to liability,

- our limited number of patents,
- failure to obtain, maintain and enforce our intellectual property rights,
- our inability to attract and retain qualified personnel,
- our reliance on third parties to complete certain processes in connection with the manufacture of our products,
- product quality and defects,
- existing or increased competition,
- our ability to market and sell our products,
- our inability to successfully scale our New York fabrication facility and related operations and to maintain a successful fabrication operation while maintaining quality control and assurance and avoiding delays in output,
- our failure to innovate or adapt to new or emerging technologies, including in relation to our competitors,
- our failure to comply with regulatory requirements,
- results of any present or future arbitration or litigation,
- stock volatility and illiquidity,
- our failure to implement our business plans or strategies,
- results of any litigation or arbitration that may arise, and
- our failure to maintain the Trusted Foundry accreditation of our New York fabrication facility.

A description of some of the risks and uncertainties that could cause our actual results to differ materially from those described by the forward-looking statements in this prospectus supplement and accompanying prospectus appears in the section captioned “Risk Factors” as well as the risk factors described under the section captioned “Risk Factors” contained in our Annual Report on Form 10-K for the fiscal year ended June 30, 2019, as filed with the SEC on September 13, 2019, and subsequently filed Quarterly Reports on Form 10-Q, which are incorporated by reference in this prospectus supplement and the accompanying prospectus, and elsewhere in this prospectus supplement and accompanying prospectus. Readers are cautioned not to place undue reliance on forward-looking statements because of the risks and uncertainties related to them and to the risk factors. The forward-looking statements in this prospectus supplement and accompanying prospectus speak only as of the date hereof and, except as may be required by law, we do not undertake any obligation to update the forward-looking statements contained in this prospectus supplement or accompanying prospectus to reflect any new information or future events or circumstances or otherwise.

USE OF PROCEEDS

We intend to use the net proceeds from this offering, after deducting the Sales Agents' commissions and related offering expenses payable by us, for general corporate purposes.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS TO NON-U.S. HOLDERS

The following discussion is a summary of material U.S. federal income tax considerations relevant to Non-U.S. Holders (as defined below) relating to the purchase, ownership and disposition of our common stock issued pursuant to this offering. This discussion is based on the U.S. Internal Revenue Code of 1986, as amended, or the “Code,” Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the U.S. Internal Revenue Service, or the “IRS,” in each case in effect as of the date hereof. These authorities may change or be subject to differing interpretations that may be applied retroactively in a manner that could adversely affect a Non-U.S. Holder of our common stock. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance that the IRS or a court will not take a contrary position to that discussed below regarding the U.S. federal income tax consequences of the purchase, ownership and disposition of our common stock.

This discussion is limited to Non-U.S. Holders that hold our common stock as a “capital asset” within the meaning of the Code (generally, property held for investment). This discussion does not purport to be a complete analysis of all potential tax consequences and does not address the effects of other U.S. federal tax laws, such as the U.S. estate and gift tax laws, and any applicable state, local or non-U.S. tax laws or tax treaties. This summary does not address all U.S. federal income tax consequences relevant to a Non-U.S. Holder’s particular circumstances, including the impact of the Medicare contribution tax on net investment income. In addition, it does not address consequences relevant to Non-U.S. Holders subject to special rules, including, without limitation:

- U.S. expatriates and former citizens or long-term residents of the United States;
- persons subject to the alternative minimum tax;
- persons holding our common stock as part of a hedge, straddle or other risk reduction strategy or as part of a conversion transaction or other integrated investment;
- banks, thrifts, regulated investment companies, real estate investment trusts, insurance companies and other financial institutions;
- brokers, dealers or traders in securities or foreign currencies;
- “controlled foreign corporations” or “passive foreign investment companies”;
- partnerships or other entities or arrangements treated as partnerships for U.S. federal income tax purposes (and partners therein);
- tax-exempt organizations or governmental organizations;
- persons deemed to sell our common stock under the constructive sale provisions of the Code;
- persons who hold or receive our common stock pursuant to the exercise of any employee stock option or otherwise as compensation; and
- tax-deferred or other retirement accounts.

If an entity or arrangement treated as a partnership for U.S. federal income tax purposes holds our common stock, the tax treatment of such partnership and a partner of the partnership will depend on the activities of the partnership and certain determinations made at the partner level. Accordingly, partnerships holding our common stock and the partners in such partnerships should consult their tax advisors regarding the U.S. federal income tax consequences to them in connection with the purchase, ownership and disposition of our common stock.

THIS DISCUSSION IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT CONSTITUTE TAX ADVICE. INVESTORS SHOULD CONSULT THEIR TAX ADVISORS WITH RESPECT TO THE APPLICATION OF THE U.S. FEDERAL INCOME TAX LAWS TO THEIR PARTICULAR SITUATIONS AS WELL AS ANY TAX CONSEQUENCES OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF OUR COMMON STOCK ARISING UNDER THE U.S. FEDERAL ESTATE OR GIFT TAX LAWS OR UNDER THE LAWS OF ANY STATE, LOCAL OR NON-U.S. TAXING JURISDICTION OR UNDER ANY APPLICABLE INCOME TAX TREATY.

Definition of a Non-U.S. Holder

For purposes of this discussion, a “Non-U.S. Holder” is any beneficial owner of our common stock that is neither a “U.S. person” nor an entity treated as a partnership for U.S. federal income tax purposes. A U.S. person is any person that, for U.S. federal income tax purposes, is or is treated as any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation or entity treated as a corporation that is created or organized under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income tax regardless of its source; or
- a trust that (i) is subject to the primary supervision of a U.S. court and the control of one or more U.S. persons, or (ii) has a valid election in effect to be treated as a U.S. person for U.S. federal income tax purposes.

Distributions

We do not currently intend to pay any cash dividends on our common stock in the foreseeable future. However, if we make distributions of cash or property on our common stock, such distributions will constitute dividends for U.S. federal income tax purposes to the extent paid from our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital and first be applied against and reduce a Non-U.S. Holder’s adjusted tax basis in its common stock, but not below zero. Any excess will be treated as capital gain and will be treated as described below under “—Sale or Other Taxable Disposition.”

Subject to the discussions below on effectively connected income, backup withholding and the Foreign Account Tax Compliance Act (“FATCA”), dividends paid to a Non-U.S. Holder of our common stock will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends (or such lower rate specified by an applicable income tax treaty, provided the Non-U.S. Holder furnishes a valid IRS Form W-8BEN or W-8BEN-E (or other applicable documentation) certifying qualification for the lower treaty rate). A Non-U.S. Holder that does not timely furnish the required documentation, but that qualifies for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS. Non-U.S. Holders should consult their tax advisors regarding their entitlement to benefits under any applicable income tax treaty.

If dividends paid to a Non-U.S. Holder are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment or fixed base in the United States to which such dividends are attributable), the Non-U.S. Holder will be exempt from the U.S. federal withholding tax described above. To claim the exemption, the Non-U.S. Holder must furnish to the applicable withholding agent a valid IRS Form W-8ECI, certifying that the dividends are effectively connected with the Non-U.S. Holder’s conduct of a trade or business within the United States.

Any such effectively connected dividends will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected dividends, as adjusted for certain items. Non-U.S. Holders should consult their tax advisors regarding any applicable tax treaties that may provide for different rules.

Sale or Other Taxable Disposition

Subject to the discussions below regarding backup withholding and FATCA, a Non-U.S. Holder will not be subject to U.S. federal income tax on any gain realized upon the sale or other taxable disposition of our common stock unless:

- the gain is effectively connected with the Non-U.S. Holder's conduct of a trade or business within the United States (and, if required by an applicable income tax treaty, the Non-U.S. Holder maintains a permanent establishment or fixed base in the United States to which such gain is attributable);
- the Non-U.S. Holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of the disposition and certain other requirements are met; or
- our common stock constitutes a United States real property interest, or "USRPI," by reason of our status as a United States real property holding corporation, or "USRPHC," for U.S. federal income tax purposes.

Gain described in the first bullet point above generally will be subject to U.S. federal income tax on a net income basis at the regular graduated rates. A Non-U.S. Holder that is a corporation also may be subject to a branch profits tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty) on such effectively connected gain, as adjusted for certain items.

Gain described in the second bullet point above will be subject to U.S. federal income tax at a rate of 30% (or such lower rate specified by an applicable income tax treaty), which may be offset by U.S.-source capital losses of the Non-U.S. Holder (even though the individual is not considered a resident of the United States), provided the Non-U.S. Holder has timely filed U.S. federal income tax returns with respect to such losses.

With respect to the third bullet point above, we believe we currently are not, and do not anticipate becoming, a USRPHC. Because the determination of whether we are a USRPHC depends, however, on the fair market value of our USRPis relative to the fair market value of our non-USRPis and our other business assets, there can be no assurance we currently are not a USRPHC or will not become one in the future. Even if we are or were to become a USRPHC, gain arising from the sale or other taxable disposition by a Non-U.S. Holder of our common stock will not be subject to U.S. federal income tax if our common stock is considered "regularly traded," as defined by applicable Treasury Regulations, on an established securities market, and such Non-U.S. Holder owned, actually or constructively, 5% or less of our common stock throughout the shorter of the five-year period ending on the date of the sale or other taxable disposition or the Non-U.S. Holder's holding period. If we are a USRPHC and either our common stock is not regularly traded on an established securities market or a Non-U.S. Holder holds more than 5% of our common stock, actually or constructively, during the applicable period, such Non-U.S. Holder will generally be taxed on any gain in the same manner as gain that is effectively connected with the conduct of a U.S. trade or business, except that the branch profits tax generally will not apply.

Non-U.S. Holders should consult their tax advisors regarding potentially applicable income tax treaties that may provide for different rules.

Information Reporting and Backup Withholding

Payments of dividends on our common stock will not be subject to backup withholding, provided the applicable withholding agent does not have actual knowledge or reason to know the holder is a U.S. person and the holder either certifies its non-U.S. status, such as by furnishing a valid IRS Form W-8BEN, W-8BEN-E or W-8ECI, or otherwise establishes an exemption. However, information returns are required to be filed with the IRS in connection with any dividends on our common stock paid to a Non-U.S. Holder, regardless of whether any tax was actually withheld. In addition, proceeds from the sale or other taxable disposition of our common stock within the United States or conducted through certain U.S.-related brokers generally will not be subject to backup withholding or information reporting, if the applicable withholding agent receives the certification described above and does not have actual knowledge or reason to know that such holder is a United States person, or the holder otherwise establishes an exemption. Proceeds of a disposition of our common stock conducted through a non-U.S. office of a non-U.S. broker that does not have certain enumerated relationships with the United States generally will not be subject to backup withholding or information reporting.

Copies of information returns that are filed with the IRS may also be made available under the provisions of an applicable treaty or agreement to the tax authorities of the country in which the Non-U.S. Holder resides or is established.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules may be allowed as a refund or a credit against a Non-U.S. Holder's U.S. federal income tax liability, provided the required information is timely furnished to the IRS.

FATCA

Withholding taxes may be imposed under Sections 1471 to 1474 of the Code (such Sections commonly referred to as FATCA) on certain types of payments made to non-U.S. financial institutions and certain other non-U.S. entities. Specifically, a 30% withholding tax may be imposed on dividends on, or gross proceeds from the sale or other disposition of, our common stock paid to a "foreign financial institution" or a "non-financial foreign entity" (each as defined in the Code), unless (i) the foreign financial institution undertakes certain diligence and reporting obligations, (ii) the non-financial foreign entity either certifies it does not have any "substantial United States owners" (as defined in the Code) or furnishes identifying information regarding each substantial United States owner or (iii) the foreign financial institution or non-financial foreign entity otherwise qualifies for an exemption from these rules. If the payee is a foreign financial institution and is subject to the diligence and reporting requirements in (i) above, it must enter into an agreement with the U.S. Department of the Treasury requiring, among other things, that it undertake to identify accounts held by certain "specified United States persons" or "United States-owned foreign entities" (each as defined in the Code), annually report certain information about such accounts, and withhold 30% on certain payments to non-compliant foreign financial institutions and certain other account holders. Foreign financial institutions located in jurisdictions that have an intergovernmental agreement with the United States governing FATCA may be subject to different rules.

Under the applicable Treasury Regulations and administrative guidance, these withholding requirements generally currently apply to payments of dividends on our common stock. This withholding tax currently will not apply to the gross proceeds from the sale or other disposition of our common stock.

Prospective investors should consult their tax advisors regarding the potential application of withholding under FATCA to their investment in our common stock.

PLAN OF DISTRIBUTION

We have entered into the Sales Agreement with BofA Securities, Inc. and Piper Sandler & Co., as Sales Agents, under which we are permitted to offer and sell the Shares having an aggregate offering price of up to \$50,000,000 through a Sales Agent acting as sales agent or directly to a Sales Agent or Agents acting as principal from time to time. We have filed a copy of the Sales Agreement as an exhibit to the registration statement of which this prospectus supplement forms a part. The sales, if any, of the Shares made under the Sales Agreement may be made by means of transactions that are deemed to be “at the market” offerings as defined in Rule 415 under the Securities Act, including block trades and sales made in ordinary brokers’ transactions on Nasdaq or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices.

If we sell shares of our common stock to either Sales Agent as principal, we will enter into a separate agreement with such Sales Agent and we will describe this agreement in a pricing supplement.

On any day (other than a day on which Nasdaq is closed or scheduled to close prior to its regular weekday closing time) (each, a “trading day”), we may sell Shares through only one Sales Agent and, if we determine to do so, we will instruct the applicable Sales Agent as to the maximum number of Shares to be sold on such trading day and the minimum price per Share at which such Shares may be sold. Subject to the terms and conditions of the Sales Agreement, such Sales Agent will use its commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell on our behalf all of the designated Shares in accordance with such instruction. We or the Sales Agent through whom the sale of Shares is to be made as sales agent on any trading day may suspend the offering of Shares for any reason and at any time, upon notifying the other party.

If acting as sales agent, the applicable Sales Agent will provide to us written confirmation following the close of trading on the Nasdaq on each trading day on which Shares are sold under the Sales Agreement. Each confirmation will include the number of Shares sold on that day, the aggregate gross sales proceeds of the Shares, the net proceeds to us (after deduction of any transaction fees, transfer taxes or similar taxes or fees imposed by any governmental entity or self-regulatory organization in respect of such sales) and the aggregate compensation payable by us to such Sales Agent with respect to such sales. We will report, on a quarterly basis, the number of Shares sold by or through the Sales Agents during such quarterly fiscal period, the net proceeds received by the Company and the aggregate compensation paid by the Company to the Sales Agents with respect to such sales.

We will pay each Sales Agent a commission of up to 3.00% of the gross sales price of the Shares sold through such Sales Agent. We have agreed to reimburse the Sales Agents for certain of their legal expenses in connection with the establishment of the ATM program.

Settlement for sales of Shares will occur on the second business day that is also a trading day following the trade date on which such sales are made, unless another date is agreed to in writing by us and the applicable Sales Agent.

If the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are not satisfied with respect to the Company or the Shares, we will promptly notify the Sales Agents and future offers and sales of Shares through the Sales Agents on an agented basis pursuant to the Sales Agreement shall be suspended until that or other exemptive provisions have been satisfied in the judgment of each party.

The offering of common stock pursuant to the Sales Agreement will terminate upon the earlier of (1) the sale of all Shares subject to the Sales Agreement or (2) the termination of the Sales Agreement by us or by the Sales Agents, which may occur for any reason, at any time, by us or a Sales Agent, as to itself, upon the giving of two days prior written notices to the other parties.

In connection with the sale of the Shares on our behalf, the Sales Agents may be deemed “underwriters” within the meaning of the Securities Act, and the compensation paid to the Sales Agents may be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to the Sales Agents against certain liabilities, including civil liabilities under the Securities Act.

We estimate that the total expenses of this offering payable by us, excluding commissions payable to the Sales Agents under the Sales Agreement, will be approximately \$.

The Sales Agents and their respective affiliates are full service financial institutions engaged in various activities, which may include sales and trading, commercial and investment banking, advisory, investment management, investment research, principal investment, hedging, market making, brokerage and other financial and non-financial activities and services. The Sales Agents and their respective affiliates have provided, and may in the future provide, a variety of these services to us and to persons and entities with relationships with us, for which they received or will receive customary fees and expenses.

In the ordinary course of their various business activities, the Sales Agents and their respective affiliates, officers, directors and employees may purchase, sell or hold a broad array of investments and actively trade securities, derivatives, loans, commodities, currencies, credit default swaps and other financial instruments for their own account and for the accounts of their customers, and such investment and trading activities may involve or relate to our assets, securities and/or instruments (directly, as collateral securing other obligations or otherwise) and/or persons and entities with relationships with us. The Sales Agents and their respective affiliates may also communicate independent investment recommendations, market color or trading ideas and/or publish or express independent research views in respect of such assets, securities or instruments and may at any time hold, or recommend to clients that they should acquire, long and/or short positions in such assets, securities and instruments.

LEGAL MATTERS

The validity of the shares of common stock offered by this prospectus supplement will be passed upon for us by K&L Gates LLP, Charlotte, North Carolina. Shearman & Sterling LLP, New York, New York, is acting as counsel for the Sales Agents in connection with this offering.

EXPERTS

The consolidated financial statements of Akoustis Technologies, Inc. and its wholly-owned subsidiary included in the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 2019 and the Company's internal control over financial reporting have been audited by Marcum LLP, an independent registered public accounting firm, as stated in its report which is incorporated by reference herein, and has been so incorporated in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC permits us to "incorporate by reference" the information and reports we file with it. This means that we can disclose important information to you by referring to another document. The information that we incorporate by reference is considered to be part of this prospectus supplement, and later information that we file with the SEC automatically updates and supersedes this information. We incorporate by reference the documents listed below, except to the extent information in those documents is different from the information contained in this prospectus supplement, and all future documents filed with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Exchange Act until we terminate the offering of these securities:

- Our Annual Report on Form 10-K for the fiscal year ended June 30, 2019, which was filed on [September 13, 2019](#);
- Our Quarterly Reports on Form 10-Q for the quarterly periods ended September 30, 2019, December 31, 2019 and March 31, 2020, which were filed on [November 7, 2019](#), [January 31, 2020](#) and [May 1, 2020](#), respectively;
- Our Current Reports on Form 8-K filed on [October 29, 2019](#), [November 6, 2019](#), [December 16, 2019](#) and [April 21, 2020](#);
- The information specifically incorporated by reference into our Annual Report on Form 10-K for the fiscal year ended June 30, 2019 from our definitive proxy statement on [Schedule 14A](#) (other than information furnished rather than filed), filed with the SEC on September 24, 2019;
- The description of our common stock contained in our Registration Statement on [Form 8-A](#) (File No. 001-38029) filed with the SEC on March 10, 2017, including any amendment or report filed for the purpose of updating such description; and
- All documents we file with the SEC under Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus supplement and prior to the termination of this offering made by way of this prospectus supplement.

To the extent that any statement in this prospectus supplement is inconsistent with any statement that is incorporated by reference and that was made on or before the date of this prospectus supplement, the statement in this prospectus supplement shall supersede such incorporated statement. The incorporated statement shall not be deemed, except as modified or superseded, to constitute a part of this prospectus supplement or the registration statement. Statements contained in this prospectus supplement as to the contents of any contract or other document are not necessarily complete and, in each instance, we refer you to the copy of each contract or document filed as an exhibit to our various filings made with the SEC.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to:

Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, North Carolina 28078
Attention: Corporate Secretary
Telephone: (704) 997-5735

Copies of the above reports may also be accessed from our website at ir.akoustis.com/sec-filings. We have not incorporated by reference into this prospectus supplement the information on our website and it is not a part of this document. We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement. Accordingly, you should not rely on any information that is not contained or incorporated by reference in this prospectus supplement and the accompanying prospectus. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement will be deemed modified, superseded or replaced for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement modifies, supersedes or replaces such statement.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement under the Securities Act (SEC File No. 333-) that registers the securities offered hereby. The registration statement, including the exhibits and schedules attached thereto and the information incorporated by reference therein, contains additional relevant information about the securities and our Company, which we are allowed to omit from this prospectus supplement pursuant to the rules and regulations of the SEC. In addition, we are subject to the informational requirements of the Securities Act and in accordance therewith file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available on the SEC's website at www.sec.gov. Copies of certain information filed by us with the SEC are also available free of charge on our website at ir.akoustis.com/sec-filings. We have not incorporated by reference into this prospectus supplement the information on our website and it is not a part of this document.



Common Stock

Having an Aggregate Offering Price of up to \$50,000,000

PROSPECTUS SUPPLEMENT

BofA Securities

Piper Sandler

, 2020

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following is an itemized statement of expenses of the Company in connection with the issuance and delivery of the securities being registered hereby, other than underwriting discounts and commissions.

SEC registration fee	\$	19,470
Printing Expenses		*
NASDAQ Listing Fees		*
Trustee Fees and Expenses		*
Accounting Fees and Expenses		*
Legal Fees and Expenses		*
Miscellaneous		*
Total		*

* These fees will be dependent on the types of securities offered and number of offerings and, therefore, cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers.

Section 102(b)(7) of the DGCL allows a corporation to provide in its certificate of incorporation that a director of the corporation will not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of Delaware corporate law or obtained an improper personal benefit. The Company's Certificate of Incorporation provides for this limitation of liability.

Section 145 of the DGCL, or Section 145, provides that a Delaware corporation may indemnify any person who was, is or is threatened to be made, party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person is or was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who were or are a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person is or was a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit, provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests, provided that no indemnification is permitted without judicial approval if the officer, director, employee or agent is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses which such officer or director has actually and reasonably incurred.

Section 145 further authorizes a corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation or enterprise, against any liability asserted against him and incurred by him in any such capacity, or arising out of his or her status as such, whether or not the corporation would otherwise have the power to indemnify him under Section 145.

The Company's Certificate of Incorporation provides that the liability of directors for monetary damages shall be eliminated to the fullest extent under applicable law. The Company's Bylaws state that the Company shall indemnify every present or former director, officer, employee, or agent of the Company or person who is or was serving at the Company's request as a director, officer, member, manager, partner, trustee, fiduciary, employee or agent of another corporation, limited liability company, partnership, joint venture, trust, employee benefit plan or other enterprise (each an "Indemnitee").

The Company's Bylaws provide that the Company shall indemnify an Indemnitee against all judgments, fines, amounts paid in settlement and reasonable expenses actually and reasonably incurred by the Indemnitee in connection with any proceeding in which he was, or is threatened to be made, a party by reason of his serving or having served, if it is determined that the Indemnitee (a) acted in good faith, (b) reasonably believed that such action was in, or not opposed to, the Company's best interests and (c) in the case of any criminal proceeding, had no reasonable cause to believe that his conduct was unlawful; provided, however, that the Company shall not be obligated to indemnify an Indemnitee that was threatened to be made a party but does not become a party unless the incurring of such expenses was authorized by or under the authority of the Board of Directors, and the Company shall not be obligated to indemnify against any amount paid in settlement unless the Board of Directors has consented to such settlement. In any action brought by or in the right of the Company to procure a judgment in its favor, no indemnification shall be made in respect of any proceeding if a final adjudication establishes that the Indemnitee is liable to the Company, unless the court determines that such person is fairly and reasonably entitled to indemnity. The Company may indemnify an Indemnitee who has served, or prepared to serve, as a witness in, but is not a party to, any action, suit, or proceeding. The termination of any proceeding by judgment, order, settlement or conviction, or on a plea of nolo contendere or its equivalent, is not of itself determinative that the Indemnitee did not meet the requirements set forth in clauses (a) through (c) above.

Expenses incurred by any present or former director or officer of the Company in defending any civil, criminal, administrative, or investigative action, suit, or proceeding, shall be paid by the Company in advance of the final disposition of such action, suit, or proceeding upon receipt of an undertaking in writing by or on behalf of such person to repay such amount if it shall ultimately be determined that such person is not entitled to indemnification. Expenses and costs incurred by other Indemnitees may be paid by the Company in advance of the final disposition of such action, suit, or proceeding upon a similar undertaking.

Other than discussed above, neither the Company's Bylaws nor its Certificate of Incorporation includes any specific indemnification provisions for the Company's officers or directors against liability under the Securities Act. The Company has also purchased insurance providing for indemnification of its directors and officers. Additionally, insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Company pursuant to the foregoing provisions, or otherwise, the Company has been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

Item 16. Exhibits.

EXHIBIT INDEX

Exhibit Number	Description
1.1	Form of Underwriting Agreement *
1.2	<u>ATM Equity OfferingSM Sales Agreement, dated May 8, 2020 by and among the Company, as issuer, and BofA Securities, Inc. and Piper Sandler & Co., as sales agents.</u>
2.1	<u>Articles of Conversion of the Company, as filed with the Nevada Secretary of State on December 15, 2016(incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)</u>
2.2	<u>Certificate of Conversion of the Company, as filed with the Delaware Secretary of State on December 15, 2016(incorporated by reference to Exhibit 3.2 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)</u>
3.1	<u>Certificate of Incorporation of the Company, as filed with the Delaware Secretary of State on December 15, 2016(incorporated by reference to Exhibit 3.3 to the Company's Current Report on Form 8-K filed with the SEC on December 16, 2016)</u>
3.2	<u>Certificate of Amendment to the Certificate of Incorporation, as filed with the Delaware Secretary of State on November 4, 2019 (incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K filed with the SEC on November 6, 2019)</u>
3.3	<u>Amended and Restated Bylaws of the Company (incorporated by reference to Exhibit 3.5 to the Company's Quarterly Report on Form 10-Q filed with the SEC on May 1, 2020)</u>
3.4	<u>Restated Certificate of Incorporation of Akoustis, Inc., as filed with the Delaware Secretary of State on June 13, 2014, as amended(incorporated by reference to Exhibit 3.5 to the Company's Registration Statement on Form S-1 filed with the SEC on June 25, 2018)</u>
3.5	<u>Bylaws of Akoustis, Inc., as amended (incorporated by reference to Exhibit 3.6 to the Company's Registration Statement on Form S-1 filed with the SEC on June 25, 2018)</u>
4.1	<u>Indenture, dated as of October 23, 2018, by and between the Company and The Bank of New York Mellon Trust Company, N.A.(incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)</u>
4.2	<u>First Supplemental Indenture, dated as of October 23, 2018, by and between the Company and The Bank of New York Mellon Trust Company, N.A. (incorporated by reference to Exhibit 4.2 of the Company's Current Report on Form 8-K filed with the SEC on October 23, 2018)</u>
4.3	<u>Specimen certificate representing shares of common stock of Akoustis Technologies, Inc.(incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-8 filed with the SEC on February 7, 2018)</u>
4.4	Form of certificate representing shares of preferred stock of Akoustis Technologies, Inc.*
4.5	Form of certificate of designations for preferred stock*
4.6	<u>Form of Indenture relating to the issuance from time to time in one or more series of debentures, notes, bonds or other evidences of indebtedness (filed herewith)</u>
4.7	Form of senior debt security*

4.8	Form of senior subordinated debt security*
4.9	Form of subordinated debt security*
4.10	Form of warrant agreement*
4.11	Form of warrant certificate*
4.12	Form of rights agreement*
4.13	Form of rights certificate*
5.1	Opinion of K&L Gates LLP (filed herewith)
23.1	Consent of Marcum LLP (filed herewith)
23.2	Consent of K&L Gates LLP (contained in Exhibit 5.1 to the registration statement and filed herewith)
24.1	Power of attorney (set forth on the signature page of this registration statement)
25.1	Form T-1 Statement of Eligibility of Trustee under the Trust Indenture Act of 1939, as amended**

* To be filed, if necessary, with a Current Report on Form 8-K or a Post-Effective Amendment to the registration statement.

** To be filed, if necessary, pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939.

Item 17. Undertakings.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant, pursuant to the provisions described under Item 15 or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification by it is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

- (i) to include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) to reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the SEC pursuant to Rule 424(b) under the Securities Act if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement); and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

provided, however, that subparagraphs (i), (ii) and (iii) do not apply if the information required to be included in a post-effective amendment by those subparagraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration, by means of a post-effective amendment, any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser if the registrant is relying on Rule 430B: (A) each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and (B) each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. *Provided, however*, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use

(6) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser: (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424; (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant; (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(7) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(8) That, for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b) (1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.

(9) That, for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(10) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Huntersville, North Carolina, on this 8th day of May 2020.

Akoustis Technologies, Inc.

/s/ Jeffrey B. Shealy

Jeffrey B. Shealy
President and Chief Executive Officer
(Principal Executive Officer)

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Jeffrey B. Shealy, Kenneth E. Boller and Andrew Wright, or any of them, his or her true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for such person and in his or her name, place and stead, in any and all capacities, to sign any or all amendments (including post-effective amendments, exhibits thereto and other documents in connection therewith) to this registration statement and any subsequent registration statement filed by the registrant pursuant to Rule 462(b) and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents or any one of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or any of them, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed by the following persons in the capacities and on May 8, 2020.

<u>Signature</u>	<u>Title</u>
<u>/s/ Jeffrey B. Shealy</u> Jeffrey B. Shealy	President and Chief Executive Officer (Principal Executive Officer), Director
<u>/s/ Kenneth E. Boller</u> Kenneth E. Boller	Interim Chief Financial Officer (Principal Financial Officer and Accounting Officer)
<u>/s/ Arthur E. Geiss</u> Arthur E. Geiss	Co-Chairman of the Board
<u>/s/ Jerry D. Neal</u> Jerry D. Neal	Co-Chairman of the Board
<u>/s/ Steven P. DenBaars</u> Steven P. DenBaars	Director
<u>/s/ Jeffrey K. McMahon</u> Jeffrey K. McMahon	Director
<u>/s/ Suzanne B. Rudy</u> Suzanne B. Rudy	Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Huntersville, State of North Carolina, on May 8, 2020.

AKOUSTIS, INC.

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: President and Chief Executive Officer (Principal Executive Officer)

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Jeffrey B. Shealy, Kenneth E. Boller, and Andrew Wright, or any of them, his true and lawful attorney-in-fact and agent, with full power of substitution and re-substitution, for such person and in his name, place and stead, in any and all capacities, to sign any or all amendments or supplements to this registration statement and to file the same, with all exhibits thereto, and other documents in connection therewith, with the SEC, granting unto said attorneys-in-fact and agents or any one of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully as to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or any of them, or his or her substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on May 8, 2020.

/s/ Jeffrey B. Shealy
Jeffrey B. Shealy
President, Chief Executive Officer, and Director (Principal Executive Officer)

/s/ Kenneth E. Boller
Kenneth E. Boller
Interim Chief Financial Officer and Director (Principal Financial and Accounting Officer)

/s/ Andrew Wright
Andrew Wright
Secretary and Director

Akoustis Technologies, Inc.

Common Stock
(\$0.001 par value)ATM EQUITY OFFERINGSM SALES AGREEMENT

May 8, 2020

BofA Securities, Inc.
Piper Sandler & Co.
c/o BofA Securities, Inc.
One Bryant Park
New York, New York 10036

Ladies and Gentlemen:

Akoustis Technologies, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time to or through BofA Securities, Inc. ("BofA"), as sales agent and/or principal or Piper Sandler & Co. ("Piper Sandler"), as sales agent and/or principal (each, an "Agent" and together, the "Agents"), shares (the "Shares") of the Company's common stock, \$0.001 par value (the "Common Stock"), having an aggregate gross sales price not to exceed \$50,000,000, on the terms set forth in this ATM Equity OfferingSM Sales Agreement. The Company agrees that whenever it determines to sell Shares directly to an Agent as principal it will enter into a separate written Terms Agreement (each, a "Terms Agreement"), in substantially the form of Annex I hereto, relating to such sale in accordance with Section 2(k) hereof. References herein to "this Agreement" or to matters contained "herein" or "hereunder", or words of similar import, mean this ATM Equity OfferingSM Sales Agreement and any applicable Terms Agreement.

The Company has prepared and filed with the Securities and Exchange Commission (the "Commission"), in accordance with the Securities Act of 1933, as amended (the "1933 Act"), and the rules and regulations promulgated thereunder (the "1933 Act Regulations"), a shelf registration statement on Form S-3 and a preliminary prospectus supplement, in each case, covering the public offering and sale of certain securities of the Company, including the Shares. The "Registration Statement", as of any time, means such registration statement as amended at the time it becomes effective, including the exhibits and any schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B of the 1933 Act Regulations ("Rule 430B"); provided, however, that the "Registration Statement" without reference to a time means such registration statement as amended by any post-effective amendments thereto as of the time of the first contract of sale for the Shares, which time shall be considered the "new effective date" of the Registration Statement with respect to the Shares within the meaning of paragraph (f)(2) of Rule 430B ("Rule 430B(f)(2)"), including the exhibits and schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B; and *provided, further*, that if the Company files a registration statement with the Commission pursuant to Rule 462(b) of the 1933 Act Regulations relating to the Shares (a "Rule 462 Registration Statement"), then, after such filing, any reference herein to the term "Registration Statement" shall be deemed to include such Rule 462 Registration Statement. The base prospectus filed as part of such shelf registration statement at the time the shelf registration statement becomes effective, as amended in the form in which it has been filed most recently with the Commission in accordance with Section 3(b) or 3(c) hereof, including the documents incorporated or deemed incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, is referred to herein as the "Base Prospectus". Promptly after the Registration Statement becomes effective, the Company will prepare and file a prospectus supplement relating to the Shares in accordance with the provisions of Rule 424(b) of the 1933 Act Regulations ("Rule 424(b)"). Such final prospectus supplement, as amended by the prospectus supplement filed most recently with the Commission in accordance with Section 3(b), 3(c) or 3(n) hereof, as the case may be, including the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, is referred to herein as the "Prospectus Supplement". The Base Prospectus, as amended by the Prospectus Supplement and any applicable pricing supplement thereto, in the form the Base Prospectus, the Prospectus Supplement and any such pricing supplement are furnished to the Agents for use in connection with the offering and sale of Shares, are collectively referred to herein as the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus or the Prospectus or any amendment or supplement thereto shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system (or any successor system) ("EDGAR").

As used in this Agreement:

“Applicable Time” means, with respect to any offer and sale of Shares, the time immediately prior to the first contract of sale for such Shares, or such other time as agreed by the Company and the applicable Agent.

“General Disclosure Package” means each Issuer General Use Free Writing Prospectus, if any, issued prior to the Applicable Time, the most recent Prospectus filed with the Commission in accordance with Section 3(b), 3(c) or 3(n) hereof that is distributed to investors prior to the Applicable Time and the number of Shares and the initial offering price per Share, all considered together.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the 1933 Act Regulations (“Rule 433”), including, without limitation, any “free writing prospectus” (as defined in Rule 405 of the 1933 Act Regulations (“Rule 405”)) relating to the Shares that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Shares or of the offering thereof that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“Issuer General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus approved by the Agents or, in the case of a specific offer and sale of Shares, the applicable Agent, pursuant to Section 3(l) hereof that is furnished to the Agents or such Agent, as the case may be, for general distribution to investors, as evidenced by communications between the Company and the Agents or such Agent, as the case may be.

“Issuer Limited Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

All references in this Agreement to financial statements and schedules and other information which is “contained,” “included,” “made,” “stated” or “referred to” (or other references of like import) in the Registration Statement, any preliminary prospectus or the Prospectus shall be deemed to include all such financial statements and schedules and other information incorporated or deemed incorporated by reference in the Registration Statement, any preliminary prospectus or the Prospectus, as the case may be, prior to the Applicable Time relating to the particular Shares; and all references in this Agreement to amendments or supplements to the Registration Statement, any preliminary prospectus or the Prospectus shall be deemed to include the filing of any document under the Securities Exchange Act of 1934, as amended (the “1934 Act”), and the rules and regulations promulgated thereunder (the “1934 Act Regulations”) incorporated or deemed to be incorporated by reference in the Registration Statement, such preliminary prospectus or the Prospectus, as the case may be, at or after the Applicable Time relating to the particular Shares.

Section 1. Representations and Warranties. The Company represents and warrants to the Agents at the date of this Agreement, the First Delivery Date (as defined in Section 5(b) hereof), each Registration Statement Amendment Date (as defined in Section 3(o) hereof), each Company Periodic Report Date (as defined in Section 3(n) hereof), each Applicable Company Earnings Report Date (as defined in Section 3(o) hereof), each Request Date (as defined in Section 3(o) hereof), each Applicable Time and each Settlement Date (as defined in Section 2(h) hereof) (collectively, a "Representation Date"), and agrees with the Agents, as follows:

(i) Compliance of the Registration Statement, the Prospectus and Incorporated Documents. The Company meets the requirements for use of Form S-3 under the 1933 Act. The Company has filed the Registration Statement with the Commission. As of each Representation Date other than the date of this Agreement, the Registration Statement and any post-effective amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) of the 1933 Act Regulations ("Rule 401(g)(1)") has been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time of its effectiveness and as of each deemed effective date with respect to the Agents pursuant to Rule 430B(f)(2), complied or will comply in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each of any preliminary prospectus and the Prospectus and any amendment or supplement thereto, at the time it was filed with the Commission, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations and is identical to the electronically transmitted copy thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

The documents incorporated or deemed to be incorporated by reference in the Registration Statement, any preliminary prospectus and the Prospectus, when they became or will become effective or at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the 1934 Act and the 1934 Act Regulations.

(ii) Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time or at any Settlement Date, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. At each Applicable Time, neither (A) the General Disclosure Package nor (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b) or at any Settlement Date, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, at the time the Registration Statement becomes effective or when such documents incorporated by reference were or hereafter are filed with the Commission, as the case may be, when read together with the other information in the Registration Statement, the General Disclosure Package or the Prospectus, as the case may be, did not, do not and will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.

(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or any amendment or supplement thereto, including any document incorporated by reference therein, that has not been superseded or modified.

(iv) Company Not Ineligible Issuer. (A) At the time of filing the Registration Statement and any post-effective amendment thereto, (B) at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Shares, (C) at the date of this Agreement and any Terms Agreement and (D) at each Applicable Time, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

(v) Independent Accountants. The accountants who certified the financial statements and supporting schedules included in the Registration Statement, the General Disclosure Package and the Prospectus are independent public accountants as required by the 1933 Act, the 1933 Act Regulations, the 1934 Act, the 1934 Act Regulations and the Public Company Accounting Oversight Board.

(vi) Financial Statements; Non-GAAP Financial Measures. The financial statements of the Company included in the Registration Statement, the General Disclosure Package and the Prospectus, together with the related schedules and notes, present fairly in all material respects the financial position of the Company and its consolidated subsidiaries at the dates indicated and the statements of operations, changes in stockholders’ equity and cash flows of the Company and its consolidated subsidiaries for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”) applied on a consistent basis throughout the periods involved. The financial statements of the businesses or properties acquired or proposed to be acquired, if any, included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly in all material respects the information set forth therein, have been prepared in conformity with GAAP applied on a consistent basis and otherwise have been prepared in accordance with, in the case of businesses acquired or to be acquired, the applicable financial statement requirements of Rule 3-05 or, in the case of real estate operations acquired or to be acquired, Rule 3-14 of Regulation S-X. The supporting schedules, if any, present fairly in all material respects in accordance with GAAP the information required to be stated therein. The selected financial data and the summary financial information included in the Registration Statement, the General Disclosure Package and the Prospectus, if any, present fairly in all material respects the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included therein. Any pro forma financial statements and the related notes thereto included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly in all material respects the information shown therein, have been prepared in accordance with the Commission’s rules and guidelines with respect to pro forma financial statements and have been properly compiled on the bases described therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. Except as included in the Registration Statement, the General Disclosure Package and the Prospectus, no historical or pro forma financial statements or supporting schedules are required to be included in the Registration Statement, any preliminary prospectus or the Prospectus under the 1933 Act or the 1933 Act Regulations. All disclosures contained in the Registration Statement, the General Disclosure Package or the Prospectus, if any, regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission) comply in all material respects with Regulation G under the 1934 Act and Item 10 of Regulation S-K under the 1933 Act, to the extent applicable. The interactive data in eXtensible Business Reporting Language, if any, incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents in all material respects the required information and has been prepared in accordance with the Commission’s rules and guidelines applicable thereto.

(vii) No Material Adverse Change. Except as stated in the Registration Statement, the General Disclosure Package and the Prospectus, since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business (a “Material Adverse Change”), (B) there have been no transactions entered into by the Company or any of its subsidiaries, other than those in the ordinary course of business, which are material with respect to the Company and its subsidiaries considered as one enterprise, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class or series of its capital stock.

(viii) Good Standing of the Company. The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the state of Delaware and has all requisite corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and to enter into and perform its obligations under, and to consummate the transactions contemplated in, this Agreement. The Company is duly qualified as a foreign corporation to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not, singly or in the aggregate, result in a material adverse effect in (A) the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business, or (B) the ability of the Company to enter into and perform any of its obligations under, or to consummate any of the transactions contemplated in, this Agreement (collectively, a “Material Adverse Effect”).

(ix) Good Standing of Subsidiaries. Each “significant subsidiary” of the Company (as such term is defined in Rule 1-02 of Regulation S-X) (each, a “Significant Subsidiary” and, collectively, the “Significant Subsidiaries”) has been duly organized and is validly existing in good standing under the laws of the jurisdiction of its incorporation or organization, has all requisite corporate, limited liability company or partnership, as applicable, power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not, singly or in the aggregate, result in a Material Adverse Effect. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, all of the outstanding shares of capital stock of or other equity interests in each Significant Subsidiary have been duly authorized and validly issued, are fully paid and non-assessable and are owned by the Company, directly or through other subsidiaries of the Company, free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity. None of the outstanding shares of capital stock of or other equity interests in any Significant Subsidiary were issued in violation of the preemptive or similar rights of any securityholder of such Significant Subsidiary or any other person or entity.

(x) Capitalization; Listing of Common Stock. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement and the Prospectus. The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company or any other person or entity. The Company’s Common Stock has been registered pursuant to Section 12(b) of the 1934 Act, the shares of Common Stock have been listed, and the Company has filed a notification with respect to the inclusion of the Shares, on the Nasdaq Capital Market (“Nasdaq”), and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the 1934 Act or the listing of the Common Stock (including the Shares) on Nasdaq, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing.

(xi) Authorization of this Agreement. This Agreement has been duly authorized, executed and delivered by the Company.

(xii) Authorization and Description of Shares. The Shares have been duly authorized for issuance and sale by the Company pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration set forth in this Agreement, will be validly issued and fully paid and non-assessable. The issuance of the Shares is not subject to the preemptive or other similar rights of any securityholder of the Company or any other person or entity. The Common Stock conforms to all statements relating thereto contained in the Registration Statement, the General Disclosure Package and the Prospectus and such statements conform to the rights set forth in the instruments defining the same. No holder of Shares will be subject to personal liability by reason of being such a holder.

(xiii) Registration Rights. There are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement, other than those rights that have been disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and have been waived.

(xiv) Absence of Violations, Defaults and Conflicts. Neither the Company nor any of its subsidiaries are (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company or any of its subsidiaries are a party or by which it or any of them may be bound or to which any of the properties, assets or operations of the Company or any of its subsidiaries are subject (collectively, "Agreements and Instruments"), except for such defaults that would not, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its subsidiaries or any of their respective properties, assets or operations (each, a "Governmental Entity"), except for such violations that would not, singly or in the aggregate, result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement, the General Disclosure Package and the Prospectus (including the issuance and sale of Shares and the use of the proceeds from the sale thereof as described therein under the caption "Use of Proceeds") and compliance by the Company with its obligations hereunder have been duly authorized by all requisite corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties, assets or operations of the Company or any of its subsidiaries pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of the provisions of the charter, by-laws or similar organizational document of the Company or any of its subsidiaries or any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity. As used herein, a "Repayment Event" means any event or condition which gives the holder of any note, debenture or other financing instrument (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of the related financing by the Company or any of its subsidiaries.

(xv) Absence of Labor Dispute. No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or any of its subsidiaries' principal suppliers, manufacturers, customers or contractors, which could, singly or in the aggregate, result in a Material Adverse Effect.

(xvi) Absence of Proceedings. Except as stated in the Registration Statement, the General Disclosure Package and the Prospectus, there is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending, or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which could, singly or in the aggregate, result in a Material Adverse Effect. The aggregate of all pending legal or governmental proceedings to which the Company or any of its subsidiaries are a party or of which any of their respective properties, assets or operations are the subject which are not described in the Registration Statement, the General Disclosure Package and the Prospectus, including ordinary routine litigation incidental to the business, would not, singly or in the aggregate, result in a Material Adverse Effect.

(xvii) Accuracy of Exhibits. There are no contracts or documents which are required to be described in the Registration Statement, any preliminary prospectus or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described and filed as required.

(xviii) Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the Company's due authorization, execution and delivery of, or performance of its obligations under, this Agreement or for the offering, issuance, sale or delivery of Shares or the consummation of the transactions contemplated in this Agreement, except such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of Nasdaq, the securities laws of any state or non-U.S. jurisdiction or the rules of Financial Industry Regulatory Authority, Inc. ("FINRA").

(xix) Possession of Licenses and Permits. The Company and its subsidiaries possess such permits, licenses, approvals, consents and other authorizations (collectively, "Governmental Licenses") issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, except where the failure so to possess would not, singly or in the aggregate, result in a Material Adverse Effect. The Company and its subsidiaries are in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, if the subject of an unfavorable decision, ruling or finding, could, singly or in the aggregate, result in a Material Adverse Effect.

(xx) Title to Property. The Company and its subsidiaries have good and marketable title to all real property owned by them and good title to all other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) secure the Secured Notes, (B) are described in the Registration Statement, the General Disclosure Package and the Prospectus or (C) do not, singly or in the aggregate, materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company or any of its subsidiaries. All of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or any of its subsidiaries holds properties described in the Registration Statement, the General Disclosure Package or the Prospectus, are in full force and effect, and neither the Company nor any such subsidiary has any notice of any material claim of any sort that has been asserted by anyone adverse to its rights under any of the leases or subleases mentioned above or affecting or questioning its rights to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxi) Intellectual Property. (A) The Company and its subsidiaries exclusively own or have the right to use, pursuant to a valid and enforceable written license or other legally enforceable right, all Intellectual Property necessary for the conduct of the Company's and its subsidiaries' businesses as now conducted and as described in the Registration Statement, the General Disclosure Package and the Prospectus except (x) as stated in the Registration Statement, the General Disclosure Package or the Prospectus and (y) where the failure to so own or have the right to use would not result in a Material Adverse Effect. "Intellectual Property" means, in any and all jurisdictions worldwide, all (i) patents, patent applications, utility models, inventions and discoveries, statutory invention registrations, mask works, nonpublic invention disclosures, and industrial designs, community designs and other designs, (ii) trademarks, service marks, trade names, business names, logos, slogans, trade dress, Internet domain names and other identifiers of source or goodwill, including the goodwill symbolized thereby or associated therewith, (iii) works of authorship, registered and unregistered copyrights (including copyrights in software), design rights and database rights therein and thereto, (iv) rights in confidential and proprietary information, including data, trade secrets, technology, and know-how, (v) registrations, applications, licenses, renewals, continuations, continuations-in-part, divisionals, reissues, reexaminations and extensions for any of the foregoing in (i)-(iv), and (vi) any and all other intellectual property and proprietary rights.

(B) There is no infringement, misappropriation or other violation by third parties of any Intellectual Property owned or exclusively licensed by the Company or its subsidiaries (collectively, the "Company IP"), except as would not, individually or in the aggregate, have a Material Adverse Effect. Except as would not, individually or in the aggregate, have a Material Adverse Effect, (i) there is no pending or, to the knowledge of the Company, threatened, action, suit, proceeding or claim by any third party challenging the Company's or its subsidiaries' rights in or to any Company IP, and (ii) the Company is unaware of any facts which would form a reasonable basis for any such claim. The Company IP (i) is subsisting and, to the knowledge of the Company, valid and enforceable and (ii) has not been adjudged invalid or unenforceable, in whole or in part, except in each case, for the avoidance of doubt, for any prosecutions, amendments or other ordinary course administrative actions with respect to the Company IP. There is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by any third party challenging the validity, ownership, registrability, enforceability or scope of any Company IP, as applicable, and neither the Company nor any of its subsidiaries has received any written notice of such claim or is aware of any facts which would form a reasonable basis for any such claim, except as would not, individually or in the aggregate, have a Material Adverse Effect. Except as would not, individually or in the aggregate, have a Material Adverse Effect, (i) neither the Company nor any of its subsidiaries is engaging or has engaged in conduct that has infringed, misappropriated or otherwise violated any Intellectual Property of any third party, (ii) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by any third party that the Company or its subsidiaries is or has, infringed, misappropriated or otherwise violated any Intellectual Property of any third party, and (iii) neither the Company nor any of its subsidiaries has received any written notice of such claim or is aware of any facts which would form a reasonable basis for any such claim. The Company and its subsidiaries have complied in all material respects with the terms of each agreement pursuant to which Company IP has been licensed to the Company or its subsidiaries. Neither the Company nor any of its subsidiaries has received any written notice alleging any such noncompliance or is aware of any facts which would form a reasonable basis for any such claim. No university, military, educational institution, research center, Governmental Entity or other organization has funded, sponsored or contributed to research and development conducted in connection with the business of the Company or any of its subsidiaries that (i) has any claim of right to, ownership of or other lien on any Company IP or (ii) would affect the proprietary nature of any Company IP or restrict the ability of the Company or any of its subsidiaries to enforce, license or exclude others from using any Company IP, except as would not, individually or in the aggregate, have a Material Adverse Effect. Neither the Company nor any of its subsidiaries is nor ever was a member or promoter of, or a contributor to, any industry standards or standards-setting body or other organization, or has participated in any standards-setting activity, that could require or obligate the Company or such subsidiary to grant or offer to any other person any license or right to any Company IP or restrict the ability of the Company or such subsidiary to enforce, license or exclude others from using any Company IP, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(C) Each person who is or was an employee or contractor of the Company or any of its subsidiaries and who is or was involved in the creation or development of any Intellectual Property for or on behalf of the Company or any of its subsidiaries has executed a valid agreement containing an assignment to the Company or any of its subsidiaries of such person's rights in and to such Intellectual Property, and no employee of the Company or any subsidiary is in or, to the knowledge of the Company, has ever been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, noncompetition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or any subsidiary or actions undertaken by the employee while employed with the Company or any subsidiary, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(D) The Company and its subsidiaries have taken all commercially reasonable measures necessary to protect the secrecy, confidentiality and value of all of the material trade secrets and other material confidential Intellectual Property included in the Company IP and the confidentiality of such material trade secrets and material confidential Company IP has not, to the Company's knowledge, been compromised or disclosed to or accessed by any third party except pursuant to appropriate nondisclosure and confidentiality agreements.

(E) All registrations and pending applications for registration of any Company IP before any Governmental Entity (collectively, the "Company Registrations") and Company Internet domain name registrations before any domain registrar ("Company Domains") have been or were duly and properly filed. All Company Registrations and Company Domains have been duly maintained and are in full force and effect, except as would not, individually or in the aggregate, have a Material Adverse Effect. There are no material defects in, including in the filing or prosecuting of, any of the Company Registrations or any Company Domain Names, except as would not, individually or in the aggregate, have a Material Adverse Effect.

(F) The Company and its subsidiaries have complied with their duty of candor and disclosure to the U.S. Patent and Trademark Office, the U.S. Copyright Office, and any applicable foreign or international intellectual property office with respect to the Company Registrations and there are no facts required to be disclosed that were not disclosed and which would preclude the grant of any registrations of Intellectual Property applications included in the Company Registrations. The Company has no knowledge of any facts which would preclude it or any applicable subsidiary from having clear title to the Company Registrations.

(xxii) Environmental Laws. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus or would not, singly or in the aggregate, result in a Material Adverse Effect, (A) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health and safety, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, "Hazardous Materials") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "Environmental Laws"), (B) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any of its subsidiaries and (D) there are no events or circumstances that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(xxiii) Accounting Controls and Disclosure Controls. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, the Company and each of its subsidiaries maintain effective internal control over financial reporting (as defined under Rule 13a-15 and Rule 15d-15 of the 1934 Act Regulations) and a system of internal accounting controls sufficient to provide reasonable assurances that: (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (E) the interactive data in eXtensible Business Reporting Language, if any, incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents in all material respects the required information and is prepared in accordance with the Commission's rules and guidelines applicable thereto. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, since the end of the Company's most recent audited fiscal year, there has been (1) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (2) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, the Company and each of its subsidiaries maintain an effective system of disclosure controls and procedures (as defined in Rule 13a-15 and Rule 15d-15 of the 1934 Act Regulations) that are designed to ensure that the information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act is recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms, and is accumulated and communicated to the Company's management, including its principal executive officer or officers and principal financial officer or officers, as appropriate, to allow timely decisions regarding disclosure.

(xxiv) Compliance with the Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or any of the Company's directors or officers, in their capacities as such, to comply in all material respects with any provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith, including, without limitation, Section 402 related to loans and Sections 302 and 906 related to certifications.

(xxv) Payment of Taxes. All United States federal income tax returns of the Company and its subsidiaries required by law to be filed have been filed and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided. The United States federal income tax returns of the Company and its subsidiaries through the most recently completed fiscal year for which tax returns are due have been settled and no assessment in connection therewith has been made against the Company or any of its subsidiaries. The Company and its subsidiaries have filed all other tax returns that are required to have been filed by them pursuant to applicable foreign, state, local or other law except insofar as the failure to file such returns would not, singly or in the aggregate, result in a Material Adverse Effect, and has paid all taxes due pursuant to such returns or pursuant to any assessment received by the Company or any of its subsidiaries, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or re-assessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not, singly or in the aggregate, result in a Material Adverse Effect.

(xxvi) Insurance. The Company and its subsidiaries carry or are entitled to the benefits of insurance, with financially sound and reputable insurers, in such amounts and covering such risks as is generally maintained by companies of established repute engaged in the same or similar business, and all such insurance is in full force and effect. The Company has no reason to believe that it or any of its subsidiaries will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not, singly or in the aggregate, result in a Material Adverse Effect. Neither of the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(xxvii) Investment Company Act. The Company is not required, and upon the issuance and sale of the Shares as contemplated herein and the application of the net proceeds therefrom as described in the Registration Statement, the General Disclosure Package and the Prospectus will not be required, to register as an "investment company" under the Investment Company Act of 1940, as amended (the "1940 Act").

(xxviii) Absence of Manipulation. Neither the Company nor any affiliate of the Company has taken, nor will the Company or any such affiliate take, directly or indirectly, any action which is designed, or would be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any Shares or to result in a violation of Regulation M under the 1934 Act.

(xxx) Foreign Corrupt Practices Act. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or any of its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of either (A) the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the “FCPA”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA or (B) the U.K. Bribery Act 2010 (the “Bribery Act”), and the Company, its subsidiaries and, to the knowledge of the Company, its other affiliates have conducted their businesses in compliance with the FCPA and the Bribery Act and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(xxx) Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the “Money Laundering Laws”). No action, suit or proceeding by or before any Governmental Entity involving the Company or any of its subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(xxxi) OFAC. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or any of its subsidiaries is (A) an individual or entity (“Person”) currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), or (B) located, organized or resident in a country or territory that is the subject of Sanctions. The Company will not, directly or indirectly, use the proceeds of the sale of the Shares, or lend, contribute or otherwise make available such proceeds to any of its subsidiaries, joint venture partners or other Persons, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(xxxii) Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus the Company (i) does not have any material lending or other relationship with the Agents or any bank, lending or other affiliate of an Agent and (ii) does not intend to use any of the proceeds from the sale of the Shares to repay any outstanding debt owed to an Agent or any affiliate of an Agent.

(xxxiii) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement, the General Disclosure Package or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate and, to the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxxiv) No Commissions. Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than as contemplated by this Agreement) that would give rise to a valid claim against the Company or any of its subsidiaries or the Agents for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of any Shares.

(xxxv) Actively-Traded Security. The Common Stock is an “actively-traded security” exempted from the requirements of Rule 101 of Regulation M under the 1934 Act by subsection (c)(1) of such rule.

(xxxvi) Cybersecurity and Data Protection. (A) There has been no security breach or incident, unauthorized access or disclosure, or other compromise of or relating to the Company’s or its subsidiaries’ information technology and computer systems, networks, hardware, software, data and databases (including the data and information of their respective customers, employees, suppliers, vendors and any third party data maintained, processed or stored by the Company or its subsidiaries, and any such data processed or stored by third parties on behalf of the Company or its subsidiaries), equipment or technology (collectively, “IT Systems and Data”), except as would not, individually or in the aggregate, have a Material Adverse Effect; (B) neither the Company nor its subsidiaries have been notified of, or have any knowledge of any event or condition that could result in, any security breach or incident, unauthorized access or disclosure of or other compromise to their IT Systems and Data and (C) the Company and its subsidiaries have implemented appropriate controls, policies, procedures, and technological safeguards to maintain and protect the integrity, continuous operation, redundancy and security of their IT Systems and Data reasonably consistent with industry standards and practices, or as required by applicable regulatory standards. The Company and its subsidiaries are presently in compliance in all material respects with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Data, including the collection, use, transfer, processing, disposal, disclosure, handling, storage and analysis of personally identifiable information, consumer information and other confidential information of the Company, its subsidiaries and any third parties in their possession (“Sensitive Company Data”), and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification. The Company and its subsidiaries have taken all reasonable steps necessary to maintain the confidentiality of the Sensitive Company Data. The Company and its subsidiaries have not received any notice, claim, complaint, demand or letter from any person in respect of their businesses under applicable data security and data protection laws and regulations and industry standards regarding misuse, loss, unauthorized destruction or unauthorized disclosure of any Sensitive Company Data. There has been no unauthorized or illegal use of or access to any Sensitive Company Data by any third party. The Company and its subsidiaries have not been required to notify any individual or data protection authority of any information security breach, compromise or incident involving Sensitive Company Data.

(xxxvii) ERISA and Employee Benefits Matters. (A) To the knowledge of the Company, no “prohibited transaction” as defined under Section 406 of ERISA or Section 4975 of the Code and not exempt under ERISA Section 408 and the regulations and published interpretations thereunder has occurred with respect to any Employee Benefit Plan; (B) at no time has the Company or, to the knowledge of the Company, any ERISA Affiliate, maintained, sponsored, participated in, contributed to or has or had any liability or obligation in respect of any Employee Benefit Plan subject to Part 3 of Subtitle B of Title I of ERISA, Title IV of ERISA, or Section 412 of the Code or any “multiemployer plan” as defined in Section 3(37) of ERISA or any multiple employer plan for which the Company has incurred or could incur liability under Section 4063 or 4064 of ERISA; (C) no Employee Benefit Plan that is not a PEO Plan and, to the knowledge of the Company, no PEO Plan, provides or promises retiree health, retiree life insurance, or other retiree welfare benefits except as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state law, and except for continued broad-based benefit plan participation for a specified period following a qualifying termination of employment; (D) with respect to each Employee Benefit Plan that is not a PEO Plan and, to the knowledge of the Company, each PEO Plan, is and has been operated in material compliance with its terms and all applicable laws, including but not limited to ERISA and the Code and, to the knowledge of the Company, no event has occurred (including a “reportable event” as such term is defined in Section 4043 of ERISA) and no condition exists that would subject the Company to any material tax, fine, lien, penalty or liability imposed by ERISA, the Code or other applicable law; (E) with respect to each Employee Benefit Plan that is not a PEO Plan and, to the knowledge of the Company, each PEO Plan, intended to be qualified under Code Section 401(a) is so qualified and has a favorable determination or opinion letter from the Internal Revenue Service upon which it can rely, and any such determination or opinion letter remains in effect and has not been revoked and, to the knowledge of the Company, nothing has occurred since the date of any such determination or opinion letter that is reasonably likely to adversely affect such qualification; (F) with respect to each Foreign Benefit Plan, such Foreign Benefit Plan (1) if intended to qualify for special tax treatment, meets, in all material respects, the requirements for such treatment, and (2) if required to be funded, is funded to the extent required by applicable law, and with respect to all other Foreign Benefit Plans, adequate reserves therefor have been established on the accounting statements of the applicable Company or subsidiary; and (G) neither the Company nor any of its subsidiaries has any obligations under any collective bargaining agreement with any union and, to the knowledge of the Company, no organization efforts are underway with respect to employees of the Company or any of its subsidiaries. As used in this Agreement, “Code” means the Internal Revenue Code of 1986, as amended; “Employee Benefit Plan” means any “employee benefit plan” within the meaning of Section 3(3) of ERISA, including, without limitation, all stock purchase, stock option, stock-based severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (1) any current or former employee, director or independent contractor of the Company or its subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Company or any of its subsidiaries or (2) the Company or any of its subsidiaries has had or has any present or future obligation or liability; “ERISA” means the Employee Retirement Income Security Act of 1974, as amended; “ERISA Affiliate” means any member of the Company’s controlled group as defined in Code Section 414(b), (c), (m) or (o); “Foreign Benefit Plan” means any Employee Benefit Plan established, maintained or contributed to outside of the United States of America or which covers any employee working or residing outside of the United States; and “PEO Plan” means an Employee Benefit Plan sponsored and maintained by TriNet Group, Inc.

(xxxviii) No Restrictions on Subsidiary Payments to the Company. No subsidiary of the Company is currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such subsidiary’s capital stock, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary’s property or assets to the Company or any other subsidiary of the Company, except (A) as provided by applicable state law, (B) as described in or contemplated by the Registration Statement, General Disclosure and the Prospectus or (C) under the indentures governing the Company’s 6.5% Convertible Senior Notes due 2023 and the Company’s 6.5% Convertible Senior Secured Notes due 2023 (the “Secured Notes”).

Any certificate signed by any officer or other authorized signatory of the Company and delivered to the Agents or to counsel for the Agents shall be deemed a representation and warranty by the Company to the Agents as to the matters covered thereby.

Section 2. Sale and Delivery of Shares.

(a) Subject to the terms and conditions set forth herein, the Company agrees to issue and sell Shares through the applicable Agent acting as sales agent or directly to the applicable Agent acting as principal from time to time. Sales of the Shares, if any, through an Agent acting as sales agent or directly to an Agent acting as principal will be made by means of transactions that are deemed to be “at-the-market” offerings as defined in Rule 415 under the 1933 Act, including block trades, ordinary brokers’ transactions on Nasdaq or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices, or by any other method permitted by law.

(b) The Shares are to be sold to an Agent on an agented basis on any day (other than a day on which Nasdaq is closed or scheduled to close prior to its regular weekday closing time) (each, a "Trading Day") on which (i) the Company has instructed such Agent to make such sales and (ii) the Company has satisfied its covenants and conditions specified in Sections 4 and 5 hereof. On any Trading Day, the Company may sell Shares through only one Agent and, if it determines to do so, shall instruct the applicable Agent by telephone (confirmed promptly by teletype or email, which confirmation will be promptly acknowledged by such Agent) as to the maximum number of Shares to be sold on such Trading Day and the minimum price per Share at which such Shares may be sold (such instruction, an "Issuance Notice"). Subject to the terms and conditions specified herein (including, without limitation, the accuracy of the representations and warranties of the Company and the performance by the Company of its covenants and other obligations, contained herein and the satisfaction of the additional conditions specified in Section 5 hereof), such Agent shall use its commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell all of the Shares so designated by the Company as sales agent in accordance with such instruction. On any Trading Day, the Company shall give at least one business day's prior written notice by teletype or email to the Agents as to any change of the Agent through whom sales of Shares as sales agent will be made. For the avoidance of doubt, the foregoing limitation shall not apply to sales solely to employees or security holders of the Company or its subsidiaries or to a trustee or other person acquiring Shares for the accounts of such persons in which either BofA or Piper Sandler is acting for the Company in a capacity other than as Agent under this Agreement. The Company and the Agents each acknowledge and agree that (A) there can be no assurance that any Agent will be successful in selling any Shares and (B) the Agents will not incur any liability or obligation to the Company if they fail to sell Shares for any reason other than a failure to use their respective commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell such Shares as required by this Agreement.

(c) The Company or the Agent through whom the sale of Shares are to be made as sales agent on any Trading Day may, upon notice to the other party hereto by telephone (confirmed promptly by teletype or email, which confirmation will be promptly acknowledged by the receiving party), suspend the offering of Shares with respect to which such Agent is acting as sales agent for any reason and at any time; provided, however, that such suspension shall not affect or impair the parties' respective obligations with respect to the Shares sold, or with respect to Shares that the Company has agreed to sell, hereunder prior to the giving of such notice.

(d) The gross sales price of any Shares sold pursuant to this Agreement by the applicable Agent acting as sales agent of the Company shall be equal to, in the discretion of such Agent but subject to the specific instructions of the Company, the market price prevailing at the time of sale for the Shares sold by such Agent on Nasdaq or otherwise, at prices related to prevailing market prices or at negotiated prices. The compensation payable to an Agent for sales of Shares with respect to which such Agent acts as sales agent shall be up to 3.0% of the gross sales price for such Shares. The remaining proceeds, after further deduction for any transaction fees, transfer taxes or similar taxes or fees imposed by any Governmental Entity or self-regulatory organization in respect of such sales, shall constitute the net proceeds to the Company for such sales (the "Net Proceeds"). The applicable Agent shall notify the Company as promptly as practicable if any deduction referenced in the preceding sentence will be made. Notwithstanding the foregoing, in the event the Company engages an Agent as sales agent for the sale of Shares that would constitute a "distribution" within the meaning of Rule 100 of Regulation M under the 1934 Act, the Company and such Agent will agree to compensation for such Agent that is customary for such sales.

(e) If acting as sales agent hereunder, the applicable Agent shall provide written confirmation to the Company following the close of trading on Nasdaq on each Trading Day on which Shares are sold under this Agreement setting forth the number of Shares sold on such day, the aggregate gross sales proceeds of the Shares, the aggregate Net Proceeds to the Company and the aggregate compensation payable by the Company to such Agent with respect to such sales.

(f) Under no circumstances shall the aggregate gross sales price or number, as the case may be, of Shares offered or sold pursuant to this Agreement, or which are the subject of instructions to an Agent as sales agent pursuant to Section 2(b) hereof, exceed the aggregate gross sales price or number, as the case may be, of Shares (i) referred to in the preamble paragraph of this Agreement, as reduced by prior sales of Shares under this Agreement, (ii) available for sale under the Registration Statement or (iii) duly authorized from time to time to be issued and sold under this Agreement by the Company or included for listing on Nasdaq, and, in each case referred to in clause (ii) and (iii), notified to the Agents in writing. In addition, under no circumstances shall any Shares with respect to which the Agent acts as sales agent be offered or sold, or be the subject of instructions to an Agent as sales agent pursuant to Section 2(b) hereof, at a price lower than the minimum price therefor duly authorized from time to time by the Company and notified to the Agents in writing. The Agents shall have no responsibility for maintaining records with respect to Shares available for sale under the Registration Statement or for determining the aggregate gross sales price, number or minimum price of Shares duly authorized by the Company.

(g) If the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the 1934 Act are not satisfied with respect to the Company or the Shares, the Company shall promptly notify the Agents and future offers and sales of Shares through the Agents on an agented basis under this Agreement shall be suspended until that or other exemptive provisions have been satisfied in the judgment of each party.

(h) Settlement for sales of Shares will occur on the second business day that is also a Trading Day following the trade date on which such sales are made, unless another date shall be agreed to in writing by the Company and the applicable Agent (each such day, a "Settlement Date"). On each Settlement Date for the sale of Shares through an Agent as sales agent, such Shares shall be delivered by the Company to such Agent in book-entry form to such Agent's account at The Depository Trust Company against payment by such Agent of the Net Proceeds from the sale of such Shares in same day funds delivered to an account designated by the Company. If the Company shall default on its obligation to deliver Shares through an Agent as sales agent on any Settlement Date, the Company shall (i) indemnify and hold such Agent harmless against any loss, claim or damage arising from or as a result of such default by the Company and (ii) pay such Agent any commission to which it would otherwise be entitled absent such default.

(i) Notwithstanding any other provision of this Agreement, the Company shall not offer or sell, or instruct an Agent to offer or sell, any Shares through an Agent as sales agent (and, by notice to the Agents given by telephone (confirmed promptly by telecopy or email), shall cancel any instructions for any such offer or sale of any Shares prior to the commencement of the periods referenced below), and the Agents shall not be obligated to make any such offer or sale of Shares, (i) prior to the time that the Registration Statement becomes effective, (ii) during any period in which the Company is, or could be deemed to be, in possession of material non-public information or (iii) except as provided in Section 2(j) hereof, at any time during the period commencing on the 10th business day prior to the time the Company issues a press release containing, or shall otherwise publicly announce, its earnings, revenues or other operating results for a fiscal period or periods (each, an "Earnings Announcement") through and including the time that is 24 hours after the time that the Company files a Quarterly Report on Form 10-Q or an Annual Report on Form 10-K (a "Filing Time") that includes consolidated financial statements as of and for the same fiscal period or periods, as the case may be, covered by such Earnings Announcement.

(j) Notwithstanding clause (iii) of Section 2(i) hereof, if the Company wishes to offer or sell Shares to an Agent as sales agent at any time during the period from and including an Earnings Announcement through and including the corresponding Filing Time, the Company shall first (i) prepare and deliver to such Agent (with a copy to counsel for the Agents) a Current Report on Form 8-K that includes substantially the same financial and related information (together with management's discussion and analysis thereof) that was included in such Earnings Announcement (other than any earnings projections and similar forward-looking data and officers' quotations) (each, an "Earnings 8-K"), in form and substance reasonably satisfactory to such Agent, and, prior to its filing, obtain the written consent of such Agent to such filing (which consent shall not be unreasonably withheld), (ii) provide such Agent with the officers' certificate, opinions and letters of counsel and accountants' letter specified in Section 3(o), (p) and (q), respectively, hereof, (iii) afford such Agent the opportunity to conduct a due diligence review in accordance with Section 3(t) hereof prior to filing such Earnings 8-K and (iv) file such Earnings 8-K with the Commission (the date that such Earnings 8-K is so filed, a "Company Earnings Report Date"). For purposes of clarity, the parties hereto agree that (A) the delivery of any officers' certificate, opinion or letter of counsel or accountants' letter pursuant to this Section 2(j) shall not relieve the Company from any of its obligations under this Agreement with respect to any Quarterly Report on Form 10-Q or Annual Report on Form 10-K, as the case may be, including, without limitation, the obligation to deliver officers' certificates, opinions and letters of counsel and accountants' letters as provided in Section 3(o), (p) and (q), respectively, hereof, and (B) this Section 2(j) shall in no way affect or limit the operation of clause (i) of Section 2(i) hereof, which shall have independent application.

(k) Neither Agent shall have any obligation to purchase Shares as principal, whether from the Company or otherwise, unless the Company and the applicable Agent agree as set forth below. For the avoidance of doubt, neither Agent shall purchase Shares as principal prior to the time that the Registration Statement has become effective. Shares purchased from the Company by the applicable Agents, individually or in a syndicate, as principal shall be made in accordance with terms agreed upon between such Agent and the Company as evidenced by a Terms Agreement. The applicable Agent's commitment to purchase Shares from the Company as principal shall be deemed to have been made on the basis of the accuracy of the representations and warranties of the Company, and performance by the Company of its covenants and other obligations, herein contained and shall be subject to the terms and conditions herein set forth. At the time of each Terms Agreement, the applicable Agent shall specify the requirements, if any, for the officers' certificate, opinions and letters of counsel and accountants' letter pursuant to Section 3(o), (p) and (q), respectively, hereof. In the event of a conflict between the terms of this ATM Equity OfferingSM Sales Agreement and a Terms Agreement, the terms of such Terms Agreement shall control.

Section 3. Covenants. The Company agrees with the Agents:

(a) *Compliance with Securities Regulations and Commission Requests*. The Company, subject to Section 3(b) and 3(c) hereof, will comply with the requirements of Rule 430B, and will notify the Agents immediately, and confirm the notice in writing, (i) when the Registration Statement initially becomes effective, (ii) when any subsequent or post-effective amendment to the Registration Statement or any new registration statement relating to the Shares has been filed and/or has become effective or any amendment or supplement to the Prospectus shall have been filed (other than an amendment or supplement providing solely for the determination of the terms of an offering of securities unless related to an offering of Shares, as to which the Company will only be obligated to notify the applicable Agent), (iii) of the receipt of any comments from the Commission, (iv) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus, including any document incorporated by reference therein, or for additional information, (v) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any notice of objection to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) or of the issuance of any order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto, or of the suspension of the qualification of any Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (vi) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with any offering of Shares. In connection with a Terms Agreement, the Company will prepare and file with the Commission, subject to Section 3(c) hereof, a pricing supplement with respect to the offer and sale of Shares covered by such Terms Agreement. The Company will effect all filings required under Rule 424(b), in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop, prevention or suspension order and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment. In the event of any issuance of a notice of objection, by the Commission, the Company shall take all necessary action to permit offers and sales of Shares by or through the Agents, including, without limitation, amending the Registration Statement or filing a new shelf registration statement relating thereto. The Company shall pay the required Commission filing fees relating to the Shares prior to the time the initial Prospectus Supplement is filed with the Commission or the time any subsequent Prospectus Supplement that increases gross offering price or number of Shares that may offered and sold under this Agreement from that referenced in the immediately preceding Prospectus Supplement filed with the Commission.

(b) *Continued Compliance with Securities Laws*. The Company will comply with the 1933 Act, the 1933 Act Regulations, the 1934 Act and the 1934 Act Regulations so as to permit the completion of sales of Shares as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Agents or counsel to the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, including, without limitation, the filing of any document incorporated by reference therein, in order to comply with the requirements of the 1933 Act, the 1933 Act Regulations, the 1934 Act or the 1934 Act Regulations, the Company will promptly (A) give the Agents or, in the case of an offer and sale of Shares to the applicable Agent as principal, such Agent written notice of such event or condition, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Agents or such Agent, as the case may be, with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement and use its best efforts to have any amendment to the Registration Statement declared effective by the Commission as soon as possible; provided, however, that the Company shall not file or use any such amendment or supplement to which the Agents or such Agent, as the case may be, or counsel for the Agents shall reasonably object.

(c) *Filing or Use of Amendments and Supplements.* The Company will give the Agents or, in the case of an offer and sale of Shares to the applicable Agent as principal, such Agent written notice of its intention to file or use (i) any amendment to the Registration Statement or any amendment or supplement to the General Disclosure Package or the Prospectus (other than an amendment or supplement thereto relating solely to the offering of securities unless related to an offering of Shares), whether pursuant to the 1933 Act, the 1934 Act or otherwise, (ii) any new Prospectus Supplement that includes information in addition to the information referred to in Section 3(n) hereof or (iii) a pricing supplement disclosing the offer and sale of Shares covered by a Terms Agreement, will furnish the Agents or such Agent, as the case may be, with copies of any such document a reasonable amount of time prior to such proposed filing or use, as the case may be, and will not file or use any such document to which the Agents or such Agent, as the case may be, or counsel for the Agents shall reasonably object.

(d) *Delivery of Registration Statements.* The Company has furnished or will deliver to the Agents and counsel for the Agents, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and signed copies of all consents and certificates of experts. The signed copies of the Registration Statement and each amendment thereto furnished to the Agents and counsel for the Agents will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(e) *Delivery of Prospectuses.* The Company will furnish to the Agents or, in the case of an offer and sale of Shares to the applicable Agent as principal, such Agent, without charge, upon effectiveness of the Registration Statement and thereafter during the period in which a prospectus is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations (“Rule 172”), would be) required by the 1933 Act to be delivered in connection with any offer or sale of Shares, such number of copies of the Prospectus (as amended or supplemented) as the Agents or such Agent, as the case may be, may reasonably request. The Company will also furnish, upon request of the Agents or such Agent, as the case may be, copies of the Prospectus (as amended or supplemented) to each exchange or market on which sales of Shares were made as may be required by the rules and regulations of such exchange or market. The Prospectus and any amendments or supplements thereto furnished in accordance with this Section will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(f) *Reporting Requirements.* The Company, during the period in which a prospectus is (or, but for the exception afforded by Rule 172, would be) required by the 1933 Act to be delivered in connection with any offer or sale of Shares, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods prescribed by, and meeting the requirements of, the 1934 Act and the 1934 Act Regulations. Additionally, the Company shall report the use of the net proceeds from the sale of any Shares as may be required under the 1933 Act and the 1933 Act Regulations, including, if applicable, Rule 463 of the 1933 Act Regulations.

(g) *Blue Sky Qualifications.* The Company will use its best efforts, in cooperation with the Agents or, in the case of an offer and sale of Shares to the applicable Agent as principal, such Agent to qualify the Shares for offering and sale under the applicable securities laws of such states and non-U.S. jurisdictions as the Agents or such Agent, as the case may be, may, from time to time, designate and to maintain such qualifications in effect so long as required to complete the sale of the Shares contemplated by this Agreement; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(h) *Earnings Statement.* The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Agents the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(i) *Use of Proceeds.* The Company will use the net proceeds received by it from the sale of the Shares pursuant to this Agreement in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under “Use of Proceeds.”

(j) *Listing.* The Company will use its best efforts to effect and maintain the listing of the Shares on, and satisfy the requirements of, Nasdaq.

(k) *Notice of Certain Actions.* The Company will not, without the prior written consent of the Agents, during the period beginning on the third Trading Day immediately prior to the date on which an Issuance Notice is delivered to any Agent hereunder and ending on the third Trading Day immediately following the Settlement Date with respect to the Shares sold pursuant to the Issuance Notice, (i) directly or indirectly offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for shares of Common Stock or file any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap, agreement or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Shares to be sold hereunder, (B) any shares of Common Stock issued by the Company upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued or options to purchase Common Stock granted pursuant to existing employee benefit plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (D) any shares of Common Stock issued pursuant to any non-employee director stock plan or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (E) any issuance of shares of Common Stock in connection with mergers or acquisitions of business, entities, property or other assets, joint ventures or strategic alliances, provided that the aggregate number of shares of Common Stock issuance under this clause (E) pursuant to any such arrangement shall not exceed five percent (5%) of the number of shares of Common Stock outstanding immediately prior to giving effect to such issuance. Upon receipt of any written notice contemplated above, an Agent may suspend its activity under this Agreement for such period of time as deemed appropriate by such Agent.

(l) *Issuer Free Writing Prospectuses.* The Company agrees that, unless it obtains the prior written consent of the applicable Agent, it will not make any offer relating to the Shares that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to by the applicable Agent as an “issuer free writing prospectus,” as defined in Rule 433, and that it will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus any event shall occur or condition shall exist as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the applicable Agent and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(m) *No Stabilization or Manipulation.* The Company agrees that neither it nor any affiliate of the Company will take, directly or indirectly, any action which is designed, or would be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any Shares or to result in a violation of Regulation M under the 1934 Act.

(n) *Update of Activity under this Agreement.* The Company shall disclose (i) in each Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed by the Company in respect of any fiscal quarterly period (which, in the case of an Annual Report on Form 10-K, would mean the last quarterly period of the fiscal year) in which sales of Shares were made by or through an Agent under this Agreement (each date on which any such document or amendment thereto is filed, a “Company Periodic Report Date”), or (ii) to the extent required by applicable law and/or interpretations of the Commission, in Prospectus Supplements for each such fiscal quarterly period, the number of Shares sold by or through the Agents under this Agreement during such fiscal quarterly period and the net proceeds received by the Company and the aggregate compensation paid by the Company to the Agents with respect to such sales.

(o) *Delivery of Future Officers’ Certificates.* Upon commencement of the offering of Shares under this Agreement and subject to Section 5(r), (A) each time Shares are delivered to the applicable Agent as principal on a Settlement Date, (B) promptly after each (i) date on which the Registration Statement shall be amended or a new registration statement relating to the Shares shall become effective or the Prospectus shall be amended or supplemented (other than (1) by an amendment or supplement providing solely for the determination of the terms of securities, including the Shares, (2) in connection with the filing of a Prospectus Supplement that contains solely the information referred to in Section 3(n) hereof, or (3) in connection with the filing of any Current Report on Form 8-K (other than an Earnings 8-K and any other Current Report on Form 8-K which contains financial statements, supporting schedules or other financial data, including any Current Report on Form 8-K under Item 2.02 of such form that is considered “filed” under the 1934 Act) (each such date, a “Registration Statement Amendment Date”), (ii) Company Earnings Report Date with respect to which the Company is required to provide an Agent with an officers’ certificate, opinions and letters of counsel and accountants’ letter pursuant to Section 2(j) hereof (an “Applicable Company Earnings Report Date”) and (iii) Company Periodic Report Date, and (C) promptly after each reasonable request by the Agents (each date of any such request by the Agents, a “Request Date”), the Company will furnish or cause to be furnished to the Agents or, in the case of clause (A) above, the applicable Agent, an officers’ certificate, dated such Settlement Date, such Registration Statement Amendment Date, such Applicable Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agents, or, in the case of clause (A) above, such Agent, as the case may be, to the effect that the statements contained in the officers’ certificate referred to in Section 5(e) hereof that was last furnished to the Agents or, in the case of clause (A) above, such Agent, as the case may be, are true and correct as of the date of such certificate as though made at and as of the date of such certificate (except that such statements shall be deemed to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented at the date of such certificate) or, in lieu of such certificate, a certificate of the same tenor as the certificate referred to in Section 5(e) hereof that, but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented at the date of such certificate. As used in this Section 3(o), to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Applicable Company Earnings Report Date, Company Periodic Report Date or Request Date, “promptly” shall be deemed to be at or prior to the Applicable Time for such sale.

(p) *Delivery of Future Opinions and Letters of Counsel.* Upon commencement of the offering of Shares under this Agreement and subject to Section 5(r), (A) each time Shares are delivered to the applicable Agent as principal on a Settlement Date and (B) promptly after each (i) Registration Statement Amendment Date, (ii) Applicable Company Earnings Report Date, (iii) Company Periodic Report Date or (iv) Request Date, the Company will furnish or cause to be furnished to the Agent or, in the case of clause (A) above, the applicable Agent the written opinions and letters of each of counsel to the Company (who shall be reasonably acceptable to the Agents) or, in the case of clause (A) above, such Agent, as the case may be) and counsel to the Agents, dated such Settlement Date, such Registration Statement Amendment Date, such Applicable Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agents, or, in the case of clause (A) above, such Agent, as the case may be, of the same tenor as the respective opinions and letters referred to in Section 5(b) and 5(c), as applicable, hereof but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such opinion and letter or, in lieu of any such opinion and letter, counsel last furnishing such opinion and letter to the Agents or, in the case of clause (A) above, such Agent, as the case may be, shall furnish the Agents or, in the case of clause (A) above, such Agent, as the case may be, with a letter substantially to the effect that the Agents or, in the case of clause (A) above, such Agent, as the case may be, may rely on such counsel’s last opinion and letter to the same extent as though each were dated the date of such letter authorizing reliance (except that statements in such last opinion and letter shall be deemed to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such letter authorizing reliance). As used in this Section 3(p), to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Applicable Company Earnings Report Date, Company Periodic Report Date or Request Date, “promptly” shall be deemed to be at or prior to the Applicable Time for such sale.

(q) *Delivery of Future Accountants' Letters.* Upon commencement of the offering of Shares under this Agreement and subject to Section 5(r), (A) each time Shares are delivered to the applicable Agents as principal on a Settlement Date and (B) promptly after each (i) Registration Statement Amendment Date, (ii) Applicable Company Earnings Report Date, (iii) Company Periodic Report Date or (iv) Request Date, the Company will cause its independent accountants to furnish to the Agents or, in the case of clause (A) above, the applicable Agent a letter, dated such Settlement Date, such Registration Statement Amendment Date, such Applicable Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agents, or, in the case of clause (A) above, such Agent, as the case may be, of the same tenor as the letter referred to in Section 5(d) hereof but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such letter. As used in this paragraph, to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Applicable Company Earnings Report Date, Company Periodic Report Date or Request Date, "promptly" shall be deemed to be at or prior to the Applicable Time for such sale.

(r) *Waiver of Future Delivery Obligations.* The Company may notify the Agents by telephone (confirmed promptly by electronic mail), or by such other method as the Company and the Agents shall mutually agree in writing, at any time until 5:00 p.m., New York City time, on the second business day preceding any Representation Date (other than the Company Periodic Report Date relating to the date of filing of the Company's Annual Report on Form 10-K) that it does not intend to sell Shares under this Agreement for the period commencing on such Representation Date and continuing until the next succeeding Representation Date. If the Company shall have provided such notice, the requirements to provide the certificate pursuant to Section 5(o) hereunder, legal opinions and negative assurance letters, as the case may be, pursuant to Section 5(p) hereunder, a letter or letters from accountants pursuant to Section 5(q) hereunder shall be waived in respect of such Representation Date. Notwithstanding the foregoing, if the Company delivers an Issuance Notice to an Agent at a time that is (i) following a Representation Date in respect of which deliveries to the Agents of the documents required by any of Section 5(o), Section 5(p), and Section 5(q) hereunder were waived, and (ii) prior to the next Representation Date, such Agent shall not be obligated to sell any Shares pursuant to such Issuance Notice until all documents required by each such applicable section of this Agreement shall have been provided to such Agent and the Company shall have provided such Agent with a customary due diligence update.

(s) *Trading in the Common Stock.* The Company consents to the Agents trading in the Company's Common Stock for their own account and for the account of their clients at the same time as sales of Shares occur pursuant to this Agreement.

(t) *Non-Consummation Offer.* If, to the knowledge of the Company, any filing required by Rule 424(b) in connection with an offering of Shares shall not have been made or the representations and warranties of the Company contained in this Agreement shall not be true and correct on the applicable Settlement Date, the Company will offer to any person who has agreed to purchase Shares from or through an Agent the right to refuse to purchase and pay for such Shares.

(u) *Due Diligence Review.* The Company will cooperate with any due diligence review reasonably requested by the Agents or counsel for the Agents, fully and in a timely manner, in connections with offers and sales of Shares from time to time, including, without limitation, and upon reasonable notice, providing information and making available documents and appropriate corporate officers, during regular business hours and at the Company's principal offices.

(v) *Renewal Deadline.* If, immediately prior to the third anniversary of the initial effective date of the Registration Statement (the "Renewal Deadline"), this Agreement is still in effect or any Shares purchased by an Agent as principal remain unsold, the Company will, prior to the Renewal Deadline, (i) promptly notify the Agents and (ii) promptly file, if it is eligible to do so, an automatic shelf registration statement relating to the Shares, in a form and substance satisfactory to the Agents. If, at the time the Company intends to file such an automatic shelf registration statement, it is not eligible to do so, the Company will, prior to the Renewal Deadline, promptly notify the Agents, (ii) promptly file a new shelf registration statement on the proper form relating to the Shares, in a form and substance satisfactory to the Agents, (iii) use its best efforts to cause such new shelf registration statement to be declared effective within 60 days after the Renewal Deadline and (iv) promptly notify the Agents of such effectiveness. The Company will take all other action necessary or appropriate to permit the offering and sale of the Shares to continue as contemplated in the expired Registration Statement. References herein to the "Registration Statement" shall include such new automatic shelf registration statement or such new shelf registration statement, as the case may be.

(w) *Ceasing Eligibility For Use of Shelf Registration Statement Form.* If, at any time, when Shares purchased by an Agent as principal remain unsold, the Company receives a notice from the Commission pursuant to Rule 401(g)(1) or otherwise ceases to be eligible to use the shelf registration statement form, the Company will (i) promptly notify the Agents, (ii) promptly file a new registration statement or post-effective amendment on the proper form relating to such Shares, in form and substance satisfactory to the Agents, (iii) use its best efforts to cause such new registration statement or post-effective amendment to be declared effective as soon as practicable and (iv) promptly notify the Agents of such effectiveness. The Company will take all other action necessary or appropriate to permit the offering and sale of the Shares to continue as contemplated in the Registration Statement that was the subject to the Rule 401(g)(1) notice or for which the Company has otherwise become ineligible. References herein to the "Registration Statement" shall include such new registration statement or post-effective amendment, as the case may be.

(x) *Effectiveness of Registration Statement and Filing of Prospectus Supplement.* The Company will use its commercially reasonable efforts to cause the Registration Statement to become effective as soon as possible after the date hereof under the 1933 Act and will file the Prospectus Supplement in a form reasonably satisfactory to the Agents reasonably promptly thereafter and in any event within the applicable time period under Rule 424 of the 1933 Act.

Section 4. Payment of Expenses.

(a) *Expenses.* The Company will pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Agents of copies of any preliminary prospectus, any Issuer Free Writing Prospectus and the Prospectus and any amendments or supplements thereto and any costs associated with electronic delivery of any of the foregoing by the Agents to investors, (iii) the preparation, issuance and delivery of the certificates for the Shares, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Shares to the Agents, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors, (v) the qualification of the Shares under securities laws in accordance with the provisions of Section 3(g) hereof, including filing fees and the reasonable fees and disbursements of counsel for the Agents in connection therewith and in connection with the preparation of the Blue Sky Survey and any supplement thereto, which amount shall not exceed \$10,000 in the aggregate, (vi) the fees and expenses of any transfer agent or registrar for the Shares, (vii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the Shares, (viii) the filing fees incident to, and the reasonable fees and disbursements of counsel for the Agents in connection with, the review by FINRA of the terms of sales of Shares, (ix) the fees and expenses incurred in connection with the listing of the Shares on Nasdaq, (x) the reasonable documented out-of-pocket expenses of the Agents, including the reasonable fees, disbursements and expenses of counsel for the Agents in connection with this Agreement, the Registration Statement, the initial Prospectus in connection with the establishment of the ATM Program and otherwise in connection with the establishment of the ATM Program, which amount shall not exceed \$150,000 in the aggregate, and (xi) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for the sale of Shares caused by a breach of the representation contained in the second sentence of Section 1(a)(ii) hereof.

Section 5. Conditions of Agents' Obligations. The obligations of the Agents hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company or any of its subsidiaries delivered pursuant to the provisions hereof at each Representation Date, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a) *Effectiveness of Registration Statement and Filing of Prospectus*. The Registration Statement shall have become effective and available for the sale of all Shares contemplated to be issued by any sales instruction given pursuant to section 2(b) hereof. The Company shall have filed with the Commission the Prospectus reasonably promptly after the Registration Statement is declared effective and shall have filed any subsequent Base Prospectus or Prospectus Supplement prior to any Applicable Time and related Settlement Date, as applicable, in each case in the manner and within the time period required by Rule 424(b), and each Issuer Free Writing Prospectus, if any, in the manner and within the time period required by Rule 433. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto shall have been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) shall have been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto shall have been issued and no proceedings for any of those purposes shall have been instituted or are pending or, to the Company's knowledge, contemplated. The Company shall have complied with any and all requests for additional information on the part of the Commission to the reasonable satisfaction of the Agents. The Company shall have paid the required Commission filing fees relating to the Shares as specified in Section 3(a) hereof.

(b) *Opinion of Counsel for the Agents*. On or prior to the date that the first sales instruction pursuant to section 2(b) hereof is provided by the Company to an Agent (the "First Sales Instruction Date"), the Agents shall have received the favorable written opinion and negative assurance letter of Shearman & Sterling LLP, counsel for the Agents, dated such date (the date of such delivery, together with deliveries pursuant to Section 5(c), (d), (e), (f) and (h), the "First Delivery Date"), with respect to such matters as the Agents may reasonably request. In giving such opinion or opinions, such counsel may rely, as to all matters governed by the laws of jurisdictions other than the laws of the State of New York, the General Corporation Law of the State of Delaware and the federal securities laws of the United States, upon the opinions of counsel satisfactory to the Agents. Such counsel may also state that, insofar as such opinion involves factual matters, they have relied, to the extent they deem proper, upon certificates of officers and other representatives of the Company and its subsidiaries and certificates of public officials.

(c) *Opinion of Counsel to the Company*. On or prior to the First Sales Instruction Date, the Agents shall have received (i) the favorable written opinion and negative assurance letter of K&L Gates LLP, counsel to the Company, and (ii) the favorable written opinion of Ogawa Professional Corporation, intellectual property counsel to the Company, each dated such date, to the effect set forth in Exhibit A and Exhibit B hereto.

(d) *Accountants' Letter*. On or prior to the First Sales Instruction Date, the Agents shall have received a letter from Marcum LLP, dated such date, in form and substance satisfactory to the Agents, containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and other financial information included in the Registration Statement, the General Disclosure Package and the Prospectus or any amendment or supplement thereto.

(e) *Officers' Certificate for the Company*. On or prior to the First Sales Instruction Date, there shall not have been, since the date of the latest audited financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, any Material Adverse Change, and the Agents shall have received a certificate of the Chief Executive Officer or President of the Company and of the Chief Financial Officer or Chief Accounting Officer of the Company, dated such date, to the effect that (A) there has been no such Material Adverse Change, (B) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made on and as of such date, (C) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied on or prior to such date and (iv) no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) has been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto has been issued and no proceedings for any of those purposes have been instituted or are pending or, to their knowledge, contemplated.

(f) *Listing.* The Shares shall have been approved for listing, subject to official notice of issuance, on Nasdaq.

(g) *Additional Documents.* On or prior to the First Sales Instruction, counsel for the Agents shall have been furnished with such documents and opinions as they may require for the purpose of enabling them to render the opinions or make the statements requested by the Agents, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the covenants, obligations or conditions, contained herein; and all proceedings taken by the Company in connection with the issuance and sale of the Shares as contemplated herein shall be satisfactory in form and substance to the Agents and counsel for the Agents.

(h) *Termination of this Agreement.* If any condition specified in this Section shall not have been fulfilled when and as required to be fulfilled, this Agreement may be terminated by the applicable Agent by notice to the Company at any time, and any such termination shall be without liability of any party to any other party except the provisions of Sections 1, 3(h), 4, 6, 7, 8, 13, 14, 15 and 16 hereof shall remain in full force and effect notwithstanding such termination.

Section 6. Indemnification.

(a) *Indemnification of the Agents.* The Company agrees to indemnify and hold harmless the Agents, their respective affiliates (as such term is defined in Rule 501(b) of the 1933 Act Regulations (each, an "Affiliate")), selling agents, officers and directors and each person, if any, who controls an Agent within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) or (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of any offering of Shares ("Marketing Materials"), including any roadshow or investor presentations made to investors by the Company (whether in person or electronically), or the omission or alleged omission in any preliminary prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) or in any Marketing Materials of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by the Agents), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or in the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with information furnished to the Company by the Agents in writing expressly for use therein.

(b) *Indemnification of Company, Directors and Officers.* Each Agent, severally and not jointly, agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 6(a) hereof, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or in the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the information furnished to the Company by such Agent in writing expressly for use therein.

(c) *Actions against Parties; Notification.* Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) hereof, counsel to the indemnified parties shall be selected by the Agents, and, in the case of parties indemnified pursuant to Section 6(b) hereof, counsel to the indemnified parties shall be selected by the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the prior written consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for fees and expenses of more than one counsel (in addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse.* If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a)(ii) hereof effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

Section 7. Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the applicable Agent, on the other hand, from the applicable offering of Shares or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the applicable Agent, on the other hand, in connection with the statements or omissions which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

The relative benefits received by the Company, on the one hand, and the applicable Agent, on the other hand, in connection with the applicable offering of Shares shall be deemed to be in the same proportion as the total net proceeds from such offering (before deducting expenses) received by the Company, on the one hand, bear to the total commissions or underwriting discounts received by the applicable Agent, on the other hand.

The relative fault of the Company, on the one hand, and the applicable Agent, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or by the applicable Agent and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Agents agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation (even if the applicable Agents were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, no Agent shall be required to contribute any amount in excess of the total commissions or underwriting discounts received by such Agent in connection with Shares placed or underwritten by it for sale to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls an Agent within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and an Agent's Affiliates, selling agents, officers and directors shall have the same rights to contribution as such Agent, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company. The Agents' respective obligations to contribute pursuant to this Section 7 are several in proportion to the number of Shares placed or underwritten by it in the applicable offering.

Section 8. Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company or any of its subsidiaries submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of an Agent or its Affiliates, selling agents, officers or directors or any person controlling such Agent, or the Company or its officers or directors, or any person controlling the Company and (ii) delivery of and payment for the Shares.

Section 9. Termination.

(a) This Agreement may be terminated for any reason, at any time, by either the Company or an Agent, as to itself, upon the giving of two days prior written notice to the other parties hereto.

(b) The applicable Agent or Agents may terminate a Terms Agreement to which they are or it is, as the case may be, a party, at any time at or prior to the Settlement Date, (i) if there has been, in the judgment of the applicable Agent or Agents, since the time of execution of such Terms Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any Material Adverse Change, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of the applicable Agent or Agents, impracticable or inadvisable to proceed with the completion of the offering of Shares contemplated by such Terms Agreement or to enforce contracts for the sale of such Shares, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or Nasdaq, or (iv) if trading generally on the NYSE, the NYSE Amex or Nasdaq has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other Governmental Entity, or (v) if a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to the systems of Clearstream Banking, S.A., or Euroclear Bank, SA/NV, in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(c) If the Company and both Agents enter into a Terms Agreement pursuant to which the Agents agree to purchase Shares from the Company as principal and one of the Agents shall fail at the Settlement Date to purchase the Shares which it is obligated to purchase (the "Defaulted Shares"), then the nondefaulting Agent shall have the right, within 24 hours thereafter, to make arrangements to purchase all, but not less than all, of the Defaulted Shares in such amounts as may be agreed upon and upon the terms herein set forth; provided, however, that if such arrangements shall not have been completed within such 24-hour period, then:

(i) if the number of Defaulted Shares does not exceed 10% of the number of Shares to be so purchased by both Agents on the Settlement Date, the nondefaulting Agent shall be obligated to purchase the full amount thereof; or

(ii) if the number of Defaulted Shares exceeds 10% of the number of Shares to be so purchased by both Agents on the Settlement Date, such Terms Agreement shall terminate without liability on the part of the nondefaulting Agent.

No action taken pursuant to this Section 9(c) shall relieve any defaulting Agent from liability in respect of its default. In the event of any such default which does not result in a termination of such Terms Agreement, either the nondefaulting Agent or the Company shall have the right to postpone the Settlement Date for a period not exceeding seven days in order to effect any required changes in the Registration Statement, the General Disclosure Package or the Prospectus or in any other documents or arrangements.

(d) In the event of any termination under this Section 9, neither party will have any liability to the other party hereto, except that (i) the Agents shall be entitled to any commissions earned in accordance with Section 2(b) hereof, (ii) if at the time of termination (a) an Agent shall own any Shares purchased by it as principal or (b) an offer to purchase any Shares has been accepted by the Company but the Settlement Date has not occurred, the covenants set forth in Section 3 hereof shall remain in effect until such Shares are resold or so delivered, as the case may be, and (iii) the covenant set forth in Section 3(h) hereof, the provisions of Section 4 hereof, the indemnity and contribution agreements set forth in Sections 6 and 7 hereof, and the provisions of Sections 8, 13, 14, 15 and 16 hereof shall remain in effect.

Section 10. Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Agents shall be directed to them c/o BofA, One Bryant Park, New York, New York 10036, Attention: Christine Roemer, with a copy to ECM Legal, and c/o Piper Sandler, 800 Nicollet Mall, Minneapolis, Minnesota 55402, Attention: Equity Capital Markets and separately, General Counsel; and notices to the Company shall be directed to it at 9805 Northcross Center Court, Suite A, Huntersville, North Carolina 28078, Attention: General Counsel, with a copy (which shall not constitute notice) to K&L Gates LLP, 300 South Tryon Street, Suite 1000, Charlotte, North Carolina 28202, Attention: Sean M. Jones.

Section 11. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) each purchase and sale of Shares pursuant to this Agreement, including the determination of the respective initial public offering prices of Shares, if any, and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the applicable Agent, on the other hand, (b) the Agents have not assumed and will not assume any advisory or fiduciary responsibility in favor of the Company or any of its subsidiaries or other affiliates with respect to any offering of Shares or the process leading thereto (irrespective of whether the Agents have advised or are currently advising the Company or any of its subsidiaries or other affiliates on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement, (c) the Agents and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (d) the Agents have not provided any legal, accounting, financial, regulatory or tax advice to the Company or any other person or entity with respect to any offering of Shares and the Company has consulted its own respective legal, accounting, financial, regulatory and tax advisors to the extent it deemed appropriate.

Section 12. Recognition of the U.S. Special Resolution Regimes

(a) In the event that any Agent that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Agent of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Agent that is a Covered Entity or a BHC Act Affiliate of such Agent becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Agent are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States

For purposes of this Section 12, a "BHC Act Affiliate" has the meaning assigned to the term "affiliate" in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). "Covered Entity" means any of the following: (i) a "covered entity" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a "covered bank" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a "covered FSI" as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). "Default Right" has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. "U.S. Special Resolution Regime" means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

Section 13. Parties. This Agreement shall each inure to the benefit of and be binding upon the Agents and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Agents, their respective Affiliates and selling agents, the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 and their heirs and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Agents, their respective Affiliates and selling agents, the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Shares shall be deemed to be a successor by reason merely of such purchase.

Section 14. Trial by Jury. Each of the Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates), and the Agents hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

Section 15. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK.

Section 16. Consent to Jurisdiction; Waiver of Immunity. Each of the Company and the Agents agrees that any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby ("Related Proceedings") shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the "Specified Courts"), and irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any Specified Court (a "Related Judgment"), as to which such jurisdiction is non-exclusive) of the Specified Courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to a party's address set forth in Section 11 hereof shall be effective service of process upon such party for any suit, action or proceeding brought in any Specified Court. Each of the Company and the Agents irrevocably and unconditionally waives any objection to the laying of venue of any suit, action or proceeding in the Specified Courts and irrevocably and unconditionally waives and agrees not to plead or claim in any Specified Court that any such suit, action or proceeding brought in any Specified Court has been brought in an inconvenient forum.

Section 17. TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

Section 18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement. Counterparts may be delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. Federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

Section 19. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction hereof.

[Signature Pages Follow]

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement between the Agents and the Company in accordance with its terms.

Very truly yours,

Akoustis Technologies, Inc.

By: /s/ Jeffrey B. Shealy
Name: Jeffrey B. Shealy
Title: Chief Executive Officer and President

Accepted as of the date hereof:

BofA Securities, Inc.

By: /s/ Robert Brass
Name: Robert Brass
Title: Managing Director

Piper Sandler & Co.

By: /s/ Neil Riley
Name: Neil Riley
Title: Managing Director

Akoustis Technologies, Inc.

Common Stock
(\$0.001 par value)

FORM OF TERMS AGREEMENT

[BofA Securities, Inc.
One Bryant Park
New York, New York 10036]

[Piper Sandler & Co.
800 Nicollet Mall
Minneapolis, Minnesota 55402]

Ladies and Gentlemen:

Akoustis Technologies, Inc., a Delaware corporation (the "Company"), proposes, on the basis of the representations and warranties, and subject to the terms and conditions, stated herein and in the ATM Equity OfferingSM Sales Agreement, dated May 8, 2020 (the "Sales Agreement"), among the Company and [] (the "Agent"), [the agents party thereto], to issue and sell to [the Agent] [BofA Securities, Inc. and Piper Sandler & Co.] as principal for resale ([collectively,] the "Underwriter[s]"), and the Underwriter[s severally] agree[s] to purchase from the Company the shares of Common Stock specified in the Schedule A hereto (the "Initial Securities") [, and to grant to the Underwriter[s] the option to purchase the additional shares of Common Stock specified in the Schedule A hereto (the "Option Securities", and together with the Initial Securities, the "Securities")]*,[in each case] * on the terms specified in Schedule A hereto. Capitalized terms but and not defined herein have the respective meanings ascribed thereto in the Sales Agreement.

[The Company grants an option to the Underwriter[s, severally and not jointly,]to purchase up to an additional Option Securities at the price per share set forth in Schedule A hereto, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised for 30 days after the date hereof and may be exercised in whole or in part at any time from time to time upon notice by the Underwriter[s] to the Company setting forth the number of Option Securities as to which the [several] Underwriter[s] [is][are] then exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a "Date of Delivery") shall be determined by the Underwriter[s], but shall not be later than seven full business days after the exercise of said option, nor in any event prior to the Settlement Date (as defined below). [If the option is exercised as to all or any portion of the Option Securities, each of the Underwriters, acting severally and not jointly, will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A hereto opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as [BofA] [Piper Sandler] in its sole discretion shall make to eliminate any sales or purchases of fractional shares. For purposes of clarity, the parties hereto agree that the officers' certificate, opinions and letter of counsel and accountants' letter referred to in Section 3(o), (p) and (q), respectively, of the Sales Agreement are required to be delivered by or on behalf of the Company on the Settlement Date.]*

Payment of the purchase price for, and delivery of certificates for, the Initial Securities shall be made at the offices of Shearman & Sterling LLP, or at such other place as shall be agreed upon by the Underwriter[s] and the Company, at 9:00 A.M. (New York City time) on the second (or third, if the pricing occurs after 4:30 P.M. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 9(c) of the Sales Agreement), or such other time not later than ten business days after such date as shall be agreed upon by the Underwriter[s] and the Company (such time and date of payment and delivery being herein called "Settlement Date").

In addition, in the event that any or all of the Option Securities are purchased by the Underwriter[s], payment of the purchase price for, and delivery of certificates for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Underwriter[s] and the Company, on each Date of Delivery as specified in the notice from the Underwriter[s] to the Company.

Payment shall be made to the Company by wire transfer of immediately available funds to a bank account designated by the Company against delivery to the Underwriter[s] for their respective accounts for the Securities to be purchased by them. [It is understood that each Underwriter has authorized [BofA] [Piper Sandler] as representative of the Underwriters, for its account, to accept delivery of, receipt for, and make payment of the purchase price for, the Initial Securities and the Option Securities, if any, which it has agreed to purchase. [BofA] [Piper Sandler], individually and not as representative of the Underwriters, may (but shall not be obligated to) make payment of the purchase price for the Initial Securities or the Option Securities, if any, to be purchased by any Underwriter whose funds have not been received by the Settlement Date or the relevant Date of Delivery, as the case may be, but such payment shall not relieve such Underwriter from its obligations hereunder.]

Each of the provisions of the Sales Agreement not related solely to the Agents, as agents of the Company, is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if each such provision had been set forth in full herein. Each of the representations and warranties set forth in the Sales Agreement shall be deemed to have been made at and as of the date of this Terms Agreement [and] [,] the Applicable Time [and any Date of Delivery].

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement between the Underwriter[s] and the Company in accordance with its terms.

THIS TERMS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS TERMS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK.

Very truly yours,

Akoustis Technologies, Inc.

By: _____

Name: _____

Title: _____

Accepted as of the date hereof:

[Underwriter[s]]

By: _____

Name: _____

Title: _____

* Include only if the Underwriter[s][has][have] an option to purchase additional shares of Common Stock from the Company.

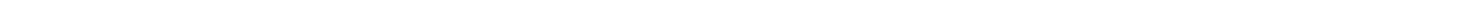
Underwriter	Principal Amount of [Initial] Securities to Be Purchased	[Principal Amount of Option Securities to Be Purchased]
[_____]	\$[_____]	\$[_____]
[_____]	[_____]	[_____]
Total:	\$[_____]	\$[_____]

[Price to Public:
\$[_._] per share]

Purchase Price by the Underwriter[s]:
\$[_._] per share

Method of Delivery of the [Initial] Securities [and Option Securities]:
[To the account or accounts at The Depository Trust Company specified by the Underwriter[s] via DWAC in return for payment of the purchase price.]

[Lockup:
[_____].]



INDENTURE
between
Akoustis Technologies, Inc.
and
[_____] **TRUSTEE**

Dated as of [_____]

Providing for Issuance of
Debt Securities in Series

Reconciliation and tie between Indenture, dated as of _____, and the Trust Indenture Act of 1939, as amended.

Trust Indenture Act of 1939 Section	Indenture Section
310(a)(1)	6.11
(a)(2)	6.11
(a)(3)	TIA
(a)(4)	Not Applicable
(a)(5)	TIA
(b)	6.9; 6.11; TIA
311(a)	TIA
(b)	TIA
312(a)	6.7
(b)	TIA
(c)	TIA
313(a)	6.6; TIA
(b)	TIA
(c)	6.6; TIA
(d)	6.6
314(a)	9.6; TIA
(b)	Not Applicable
(c)(1)	1.2
(c)(2)	1.2
(c)(3)	Not Applicable
(d)	Not Applicable
(e)	1.2
(f)	TIA
315(a)	TIA
(b)	6.5
(c)	6.1
(d)(1)	TIA
(d)(2)	TIA
(d)(3)	TIA
(e)	TIA
316(a)(1)(A)	5.8
(a)(1)(B)	5.7
(b)	5.2; 5.3; 5.10
(c)	TIA
317(a)(1)	5.3
(a)(2)	5.4
(b)	9.3
318(a)	1.11
(b)	TIA
(c)	1.11; TIA

Note: This Cross-Reference Table shall not, for any purpose, be deemed to be part of the Indenture.

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INDENTURE, dated as of [●], between Akoustis Technologies, Inc., a corporation duly organized and existing under the laws of the State of Delaware (the “Company”), and [●], as trustee, a national banking association organized and existing under the laws of the United States of America, as trustee (the “Trustee”).

RECITALS

The Company has duly authorized the execution and delivery of this Indenture to provide for the issuance from time to time of its debentures, notes or other evidences of indebtedness (“Securities”) to be issued in one or more series as herein provided.

For and in consideration of the premises and the purchase of the Securities by the Holders thereof, it is mutually covenanted and agreed as follows for the equal and ratable benefit of the Holders of the Securities or of any series thereof:

ARTICLE I

DEFINITIONS AND OTHER PROVISIONS OF GENERAL APPLICATION

Section 1.1. DEFINITIONS. (a) For all purposes of this Indenture, except as otherwise expressly provided or unless the context otherwise requires:

- (1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;
- (2) all other terms used herein which are defined in the Trust Indenture Act, either directly or by reference therein, have the meanings assigned to them therein;
- (3) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with generally accepted accounting principles; and

(4) the words “herein”, “hereof” and “hereunder” and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision.

“Affiliate” of any specified Person means any other Person directly or indirectly controlling or controlled by, or under direct or indirect common control with, such specified Person. For purposes of this definition, “control” when used with respect to any specified Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting securities, by contract or otherwise; and the terms “controlling” and “controlled” have meanings correlative to the foregoing.

“Agent” means any Paying Agent or Registrar.

“Authenticating Agent” means any authenticating agent appointed by the Trustee pursuant to Section 6.13.

“Board” or “Board of Directors” means the Board of Directors of the Company or any duly authorized committee thereof to act on behalf of the Board.

“Board Resolution” means a copy of one or more resolutions of the Board of Directors, certified by the Corporate Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of the certificate.

“Business Day”, when used with respect to any Place of Payment or any other particular location referred to in this Indenture or in the Securities, means, unless otherwise specified with respect to any Securities pursuant to Section 3.1, each Monday, Tuesday, Wednesday, Thursday and Friday which is not a day on which banking institutions in that Place of Payment or particular location are authorized or required by law to be closed, except as may otherwise be provided in the form of Security of any particular series pursuant to the provisions of this Indenture.

“Commission” means the Securities and Exchange Commission, as from time to time constituted, or, if at any time after the execution of this Indenture such Commission is not existing and performing the duties now assigned to it under the Trust Indenture Act, then the body performing such duties at such time.

“Common Stock” means the shares of common stock, \$0.001 par value per share, of the Company.

“Company” means the party named as the Company in the first paragraph of this Indenture until a successor shall have become such pursuant to the applicable provisions of this Indenture, and thereafter means such successors.

“Company Order” and “Company Request” mean, respectively, a written order or request signed in the name of the Company by the President, the Chief Executive Officer, the Chief Financial Officer, any Vice President, the Treasurer or the Corporate Secretary of the Company.

“Corporate Trust Office” means the corporate trust office of the Trustee at which at any particular time this Indenture shall be principally administered, which office at the date hereof is located at [●].

“Currency unit”, for all purposes of this Indenture, shall include any composite currency.

“Default” means any event which is, or after notice or passage of time, or both, would be, an Event of Default.

“Depository”, when used with respect to the Securities of or within any series issuable or issued in whole or in part in global form, means the Person designated as Depository by the Company pursuant to Section 3.1 until a successor Depository shall have become such pursuant to the applicable provisions of this Indenture, and thereafter shall mean or include each Person which is then a Depository hereunder, and if at any time there is more than one such Person, shall be a collective reference to such Persons.

“Dollar” or “\$” means the coin or currency of the United States as at the time of payment is legal tender for the payment of public and private debts.

“Euro” means the lawful currency of the participating member states of the European Union that adopt a single currency in accordance with the Treaty establishing the European Community, as amended by the Treaty on European Union signed February 7, 1992.

“Foreign Currency” shall mean any currency issued by the government or governments of one or more countries other than the United States or by any recognized confederation or association of such governments and shall include the Euro.

“Government Obligations” means securities which are (i) direct obligations of the United States or, if specified as contemplated by Section 3.1, the government which issued the currency in which the Securities of a particular series are payable, for the payment of which its full faith and credit is pledged or (ii) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States or, if specified as contemplated by Section 3.1, such government which issued the foreign currency in which the Securities of such series are payable, for the payment of which the full faith and credit of the United States or such other government is pledged (whether by guaranty or otherwise), which, in either case, are not callable or redeemable at the option of the issuer thereof, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such Government Obligation or a specific payment of interest on or principal of any such Government Obligation held by such custodian for the account of the holder of a depository receipt, provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Government Obligation evidenced by such depository receipt.

“Holder” means a person in whose name a Registered Security is registered on the Register.

“Indenture” means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into pursuant to the applicable provisions hereof, including, for all purposes of this instrument and any such supplemental indenture, the provisions of the Trust Indenture Act that are deemed to be a part of and govern this instrument and any such supplemental indenture, respectively; provided, however, that if at any time more than one Person is acting as Trustee under this Indenture due to the appointment of one or more separate Trustees for any one or more separate series of Securities, “Indenture” shall mean, with respect to such series of Securities for which any such Person is Trustee, this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into pursuant to the applicable provisions hereof, exclusive, however, of any provisions or terms which relate solely to other series of Securities for which such Person is not Trustee, regardless of when such terms or provisions were adopted, and exclusive of any provisions or terms adopted by means of one or more indentures supplemental hereto executed and delivered after such Person had become such Trustee, but to which such Person, as such Trustee, was not a party; provided further that in the event that this indenture is supplemented or amended by one or more indentures supplemental hereto which are only applicable to certain series of Securities, the term “Indenture” for a particular series of Securities shall only include the supplemental indentures applicable thereto.

“Indexed Security” means a Security the terms of which provide that the principal amount thereof payable at Stated Maturity may be more or less than the principal face amount thereof at original issuance.

“Interest”, when used with respect to an Original Issue Discount Security which by its terms bears interest only after Maturity, means interest payable after Maturity.

“Interest Payment Date”, when used with respect to any Security, means the Stated Maturity of an installment of interest on such Security.

“Maturity”, when used with respect to any Security, means the date on which the principal of such Security or an installment of principal becomes due and payable as therein or herein provided, whether at the Stated Maturity or by declaration of acceleration, call for redemption or otherwise.

“Officer” means the President, Chairman of the Board, the Chief Executive Officer, the Chief Operating Officer, the Chief Financial Officer the Treasurer, any Assistant Treasurer, the Controller, any Vice President (whether or not designated by a number or numbers or word or words added before the title “Vice President”), or the Corporate Secretary of the Company.

“Officer’s Certificate” means a certificate signed by an Officer of the Company.

“Opinion of Counsel” means a written opinion of legal counsel, who may be, without limitation, (a) an employee of the Company, or (b) outside counsel designated by the Company.

“Original Issue Discount Security” means any Security which provides for an amount less than the stated principal amount thereof to be due and payable upon declaration of acceleration of the Maturity thereof pursuant to Section 5.2.

“Outstanding”, when used with respect to Securities of any series, means, as of the date of determination, all Securities of such series theretofore authenticated and delivered under this Indenture, except:

(i) Securities theretofore cancelled by the Trustee or delivered to the Trustee for cancellation;

(ii) Securities, or portions thereof, for whose payment or redemption money or Government Obligations in the necessary amount has been theretofore deposited with the Trustee or any Paying Agent (other than the Company) in trust or set aside and segregated in trust by the Company (if the Company shall act as its own Paying Agent) for the Holders of such Securities, provided that, if such Securities are to be redeemed, notice of such redemption has been duly given pursuant to this Indenture or provisions therefor satisfactory to the Trustee have been made;

(iii) Securities, except to the extent provided in Sections 4.4 and 4.5, with respect to which the Company has effected defeasance and/or covenant defeasance as provided in Article IV; and

(iv) Securities which have been paid pursuant to Section 3.6 or in exchange for or in lieu of which other Securities have been authenticated and delivered pursuant to this Indenture, other than any such Securities in respect of which there shall have been presented to the Trustee proof satisfactory to it that such Securities are held by a bona fide purchaser in whose hands such Securities are valid obligations of the Company;

provided, however, that unless otherwise provided with respect to Securities of any series pursuant to Section 3.1, in determining whether the Holders of the requisite principal amount of the Outstanding Securities have given any request, demand, authorization, direction, notice, consent or waiver hereunder, or whether sufficient funds are available for redemption or for any other purpose, and for the purpose of making the calculations required by section 313 of the Trust Indenture Act or are present at a meeting of Holders for quorum purposes, (w) the principal amount of any Original Issue Discount Securities that may be counted in making such determination or calculation and that shall be deemed to be Outstanding for such purpose shall be equal to the amount of principal thereof that would be (or shall have been declared to be) due and payable, at the time of such determination, upon a declaration of acceleration of the maturity thereof pursuant to Section 5.2, (x) the principal amount of any Security denominated in one or more Foreign Currencies or currency units that may be counted in making such determination or calculation and that shall be deemed Outstanding for such purpose shall be equal to the Dollar equivalent, determined as of the date such Security is originally issued by the Company as set forth in an Exchange Rate Officer's Certificate delivered to the Trustee, of the principal amount (or, in the case of an Original Issue Discount Security, the Dollar equivalent, determined as of such date of original issuance, of the amount determined as provided in clause (w) above) of such Security, (y) unless otherwise provided with respect to such Security pursuant to Section 3.1, the principal amount of any Indexed Security that may be counted in making such determination or calculation and that shall be deemed Outstanding for such purpose shall be equal to the principal face amount of such Indexed Security at original issuance, and (z) Securities owned by the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor shall be disregarded and deemed not to be Outstanding, except that, in determining whether the Trustee shall be protected in making such calculation or in relying upon any such request, demand, authorization, direction, notice, consent or waiver, or determination as to the presence of a quorum, only Securities which a Responsible Officer of the Trustee actually knows to be so owned shall be so disregarded. Securities so owned which have been pledged in good faith may be regarded as Outstanding if the pledgee establishes to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not the Company or any other obligor upon the Securities or any Affiliate of the Company or of such other obligor.

"Paying Agent" means any Person authorized by the Company to pay the principal of, premium, if any, or interest and any other payments on all or any of the series of Securities on behalf of the Company.

“Periodic Offering” means an offering of Securities of a series from time to time the specific terms of which such Securities, including, without limitation, the rate or rates of interest or formula for determining the rate or rates of interest thereon, if any, the Maturity thereof and the redemption provisions, if any, with respect thereto, are to be determined by the Company upon the issuance of such Securities.

“Person” means any individual, corporation, limited liability company, partnership, joint venture, association, joint-stock company, trust, unincorporated organization or government or any agency or political subdivision thereof or any other entity.

“Place of Payment”, when used with respect to the Securities of or within any series, means the place or places where the principal of, premium, if any, and interest and any other payments on such Securities are payable as specified as contemplated by Sections 3.1 and 9.2.

“Predecessor Security” of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 3.6 in exchange for or in lieu of a mutilated, destroyed, lost or stolen Security shall be deemed to evidence the same debt as the mutilated, destroyed, lost or stolen Security.

“Preferred Stock” as applied to the capital stock of the Company means capital stock of any class or classes (however designated) which is preferred as to the payment of dividends, or as to the distribution of assets upon any voluntary or involuntary liquidation or dissolution of the Company, over shares of Common Stock of such corporation.

“Redemption Date”, when used with respect to any Security to be redeemed, means the date fixed for such redemption by or pursuant to this Indenture.

“Redemption Price”, when used with respect to any Security to be redeemed, in whole or in part, means the price at which it is to be redeemed pursuant to this Indenture.

“Registered Security” means any Security issued hereunder and registered as to principal and interest in the Register.

“Regular Record Date” for the interest payable on any Interest Payment Date on the Securities of or within any series means the date specified for that purpose as contemplated by Section 3.1, which date shall be, unless otherwise specified pursuant to Section 3.1, the fifteenth day preceding such Interest Payment Date, whether or not such day shall be a Business Day.

“Responsible Officer”, when used with respect to the Trustee, shall mean any senior vice president, vice president, any assistant vice president or assistant secretary working in its corporate trust department and assigned responsibility for this engagement, or any other officer of the Trustee customarily performing functions similar to those performed by the persons who at the time shall be such officers, respectively, working in its corporate trust department and assigned responsibility for this engagement, or to whom any corporate trust matter relating to the Indenture or the Securities is referred because of his knowledge of and familiarity with a particular subject.

“Security” or “Securities” has the meaning stated in the first recital of this Indenture and more particularly means a Security or Securities of the Company issued, authenticated and delivered under this Indenture.

“Special Record Date” for the payment of any Defaulted Interest means a date fixed by the Trustee pursuant to Section 3.7.

“Stated Maturity”, when used with respect to any Security or any installment of principal thereof or interest thereon, means the date specified in such Security as the fixed date on which the principal of such Security or such installment of principal or interest is due and payable.

“Subsidiary” means any Person of which the Company at the time owns or controls, directly or indirectly, more than 50% of the shares of outstanding stock or other equity interests having general voting power under ordinary circumstances to elect a majority of the Board of Directors, managers or trustees, as the case may be, of such Person (irrespective of whether or not at the time stock of any other class or classes or other equity interests of such corporation shall have or might have voting power by reason of the happening of any contingency).

“Trust Indenture Act” means the Trust Indenture Act of 1939 as in effect on the date of this Indenture, except as provided in Section 8.3.

“Trustee” means the party named as such in the first paragraph of this Indenture until a successor Trustee replaces it pursuant to the applicable provisions of this Indenture, and thereafter means such successor Trustee and if, at any time, there is more than one Trustee, “Trustee” as used with respect to the Securities of any series shall mean the Trustee with respect to the Securities of that series.

“United States” means, unless otherwise specified with respect to the Securities of any series as contemplated by Section 3.1, the United States of America (including the States and the District of Columbia), its territories, its possessions and other areas subject to its jurisdiction.

“U.S. Person” means, unless otherwise specified with respect to the Securities of any series as contemplated by Section 3.1, an individual citizen or resident of the United States, a corporation created or organized in or under the laws of the United States, any State thereof or the District of Columbia, or a partnership, estate or trust treated as a domestic partnership, estate or trust for United States federal income tax purposes.

(b) The following terms shall have the meanings specified in the Sections referred to opposite such term below:

Term	Section
“Act”	1.4(a)
“Bankruptcy Law”	5.1
“Component Currency”	3.11(h)
“Conversion Date”	3.11(d)
“Conversion Event”	3.11(h)
“Custodian”	5.1
“Defaulted Interest”	3.7(b)
“Election Date”	3.11(h)
“Event of Default”	5.1
“Exchange Rate Agent”	3.11(h)
“Exchange Rate Officer’s Certificate”	3.11(h)
“Market Exchange Rate”	3.11(h)
“Register”	3.5
“Registrar”	3.5
“Specified Amount”	3.11(h)
“Valuation Date”	3.11(c)

Section 1.2. COMPLIANCE CERTIFICATES AND OPINIONS. Upon any application or request by the Company to the Trustee to take any action under any provision of this Indenture, the Company shall furnish to the Trustee an Officer's Certificate stating that all conditions precedent, if any, provided for in this Indenture relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent, if any, have been complied with, except that in the case of any application or request as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or request, no additional certificate or opinion need be furnished.

Every certificate or opinion with respect to compliance with a condition or covenant provided for in this Indenture (other than pursuant to Sections 2.3) shall include:

- (1) a statement that the individual signing such certificate or opinion has read such condition or covenant and any definitions in this Indenture that are used in such certificate or opinion;
- (2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;
- (3) a statement that, in the opinion of each such individual, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such condition or covenant has been complied with; and
- (4) a statement as to whether, in the opinion of such individual, such condition or covenant has been complied with.

Section 1.3. FORM OF DOCUMENTS DELIVERED TO TRUSTEE. In any case where several matters are required to be certified by, or covered by an opinion of, any specified Person, it is not necessary that all such matters be certified by, or covered by the opinion of, only one such Person, or that they be so certified or covered by only one document, but one such Person may certify or give an opinion with respect to some matters and one or more other such Persons as to other matters, and any such Person may certify or give an opinion as to such matters in one or several documents.

Any certificate or opinion of an officer of the Company may be based, insofar as it relates to legal matters, upon a certificate or opinion of, or representations by, counsel, unless such officer knows that the certificate or opinion or representations with respect to the matters upon which his certificate or opinion is based are erroneous. Any such certificate or Opinion of Counsel may be based, insofar as it relates to factual matters, upon a certificate or opinion of, or representations by, an officer or officers of the Company stating that the information with respect to such factual matters is in the possession of the Company, unless such counsel knows that the certificate or opinion or representations as to such matters are erroneous.

Any certificate or opinion of an officer of the Company or of counsel may be based, insofar as it relates to accounting matters, upon a certificate or opinion of or representations by an accountant or firm of accountants in the employ of the Company, unless such officer or counsel, as the case may be, knows that the certificate or opinions or representations as to such accounting matters are erroneous.

Where any Person is required to make, give or execute two or more applications, requests, consents, certificates, statements, opinions or other instruments under this Indenture, they may, but need not, be consolidated and form one instrument.

Section 1.4. ACTS OF HOLDERS. (a) Any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be given or taken by Holders may be embodied in and evidenced by one or more instruments of substantially similar tenor signed by such Holders in person or by agent duly appointed in writing; and, except as herein otherwise expressly provided, such action shall become effective when such instrument or instruments are delivered to the Trustee and, where it is hereby expressly required, to the Company. Such instrument or instruments (and the action embodied therein and evidenced thereby) are herein sometimes referred to as the "Act" of the Holders signing such instrument or instruments. Proof of execution of any such instrument or of a writing appointing any such agent shall be sufficient for any purpose of this Indenture and conclusive in favor of the Trustee and the Company, if made in the manner provided in this Section.

(b) The fact and date of the execution by any Person of any such instrument or writing may be proved by the affidavit of a witness of such execution or by a certificate of a notary public or other officer authorized by law to take acknowledgments of deeds, certifying that the individual signing such instrument or writing acknowledged to him the execution thereof. Where such execution is by a signer acting in a capacity other than his individual capacity, such certificate or affidavit shall also constitute sufficient proof of his authority. The fact and date of the execution of any such instrument or writing, or the authority of the Person executing the same, may also be proved in any other manner which the Trustee deems sufficient.

(c) The ownership of Registered Securities shall be proved by the Register (as defined in Section 3.5 below).

(d) Any request, demand, authorization, direction, notice, consent, waiver or other Act of the Holder of any Security shall bind every future Holder of the same Security and the Holder of every Security issued upon the registration of transfer thereof or in exchange therefor or in lieu thereof in respect of anything done, omitted or suffered to be done by the Trustee or the Company in reliance thereon, whether or not notation of such action is made upon such Security.

(e) If the Company shall solicit from the Holders of any series any request, demand, authorization, direction, notice, consent, waiver or other Act, the Company may, at its option, fix in advance a record date for the determination of Holders of such series entitled to give such request, demand, authorization, direction, notice, consent, waiver or other Act, but the Company shall have no obligation to do so. If such a record date is fixed, such request, demand, authorization, direction, notice, consent, waiver or other Act may be given before or after such record date, but only the Holders of such series of record at the close of business on such record date shall be deemed to be Holders for the purposes of determining whether Holders of the requisite proportion of Outstanding Securities of such series have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other Act, and for that purpose the Outstanding Securities of such series shall be computed as of such record date; provided that no such authorization, agreement or consent by the Holders on such record date shall be deemed effective unless taken on or prior to the applicable Expiration Date (as defined below) by Holders of the requisite amount of Outstanding Securities of such series on such record date. Nothing in this paragraph shall be construed to prevent the Company from setting a new record date for any action for which a record date has previously been set pursuant to this paragraph (whereupon the record date previously set shall automatically and with no action by any Person be cancelled and of no effect), and nothing in this paragraph shall be construed to render ineffective any action taken by Holders of the requisite amount of Outstanding Securities of any series on the date such action is taken. Promptly after any record date is set pursuant to this paragraph, the Company, at its own expense, shall cause notice of such record date, the proposed action by Holders and the applicable Expiration Date to be given to the Trustee in writing and to each Holder of Securities in the manner set forth in Section 1.6.

With respect to any record date set pursuant to this Section 1.4, the Company may designate any date as the "Expiration Date" and from time to time may change the Expiration Date to any earlier or later day; provided that no such change shall be effective unless notice of the proposed new Expiration Date is given to the Trustee, and to each Holder of Securities of the applicable series in the manner set forth in Section 1.6 on or prior to the existing Expiration Date. If an Expiration Date is not designated with respect to any record date pursuant to this Section, the Company shall be deemed to have initially designated the 180th day after such record date as the Expiration Date with respect thereto, subject to its right to change the Expiration Date as provided in this paragraph. Notwithstanding the foregoing, no Expiration Date shall be later than the 180th day after the applicable record date.

(f) Without limiting the foregoing, a Holder entitled hereunder to take any action hereunder with regard to any particular Security may do so with regard to all or any part of the principal amount of such Security or by one or more duly appointed agents, each of which may do so pursuant to such appointment with regard to all or any part of such principal amount.

(g) The Company and the Trustee may make reasonable rules for action by or at a meeting of Holders.

Section 1.5. NOTICES, ETC., TO TRUSTEE AND COMPANY. Any request, demand, authorization, direction, notice, consent, waiver or Act of Holders or other document provided or permitted by this Indenture to be made upon, given or furnished to, or filed with:

if to the Company:

Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, NC 28078
Attention: Chief Executive Officer

if to the Trustee:

[•]

Notices to the Trustee are deemed given only upon actual receipt by the Trustee.

The Company or the Trustee by notice to the other may designate additional or different addresses (including facsimile numbers and electronic addresses) for subsequent notices or communications.

Any notice or communication shall be in writing and delivered in person or mailed by first-class mail (registered or certified, return receipt requested), facsimile transmission, electronic transmission or other similar means of unsecured electronic communication or overnight air courier guaranteeing next day delivery.

Section 1.6. NOTICE TO HOLDERS; WAIVER. Where this Indenture provides for notice to Holders of any event, if any of the Securities affected by such event are Registered Securities, such notice to the Holders thereof shall be sufficiently given (unless otherwise herein or in the terms of such Securities expressly provided) if in writing and mailed, first-class postage prepaid, to each such Holder affected by such event, at his address as it appears in the Register, within the time prescribed for the giving of such notice; provided that notices given to Holders of Securities in global form may be given electronically through the facilities of the Depository.

In any case where notice to Holders is given by mail, neither the failure to mail such notice, nor any defect in any notice so mailed, to any particular Holder shall affect the sufficiency of such notice with respect to other Holders of Registered Securities as provided herein. In any case where notice is given to Holders by publication, neither the failure to publish such notice, nor any defect in any notice so published, shall affect the sufficiency of such notice with respect to the sufficiency of any notice to Holders of Registered Securities given as provided herein. Any notice mailed to a Holder in the manner herein prescribed shall be conclusively deemed to have been received by such Holder, whether or not such Holder actually receives such notice.

If by reason of the suspension of regular mail service or by reason of any other cause it shall be impracticable to give such notice as provided above, then such notification as shall be made with the approval of the Trustee (such approval not to be unreasonably withheld) shall constitute a sufficient notification for every purpose hereunder. If it is impossible or, in the opinion of the Trustee, impracticable to give any notice by publication in the manner herein required, then such publication in lieu thereof as shall be made with the approval of the Trustee shall constitute a sufficient publication of such notice.

Any request, demand, authorization, direction, notice, consent or waiver required or permitted under this Indenture shall be in the English language, except that any published notice may be in an official language of the country of publication.

Where this Indenture provides for notice in any manner, such notice may be waived in writing by the Person entitled to receive such notice, either before or after the event, and such waiver shall be equivalent of such notice. Waivers of notice by Holders shall be filed with the Trustee, but such filing shall not be a condition precedent to the validity of any action taken in reliance upon such waiver.

Section 1.7. HEADINGS AND TABLE OF CONTENTS. The Article and Section headings herein and the Table of Contents are for convenience only and shall not affect the construction hereof.

Section 1.8. SUCCESSOR AND ASSIGNS. All covenants and agreements in this Indenture by the Company shall bind its successor and assigns, whether so expressed or not.

Any act or proceeding that is required or permitted by any provision of this Indenture and that is authorized or required to be done or performed by any board, committee or officer of the Company shall and may be done and performed with like force and effect by the like board, committee or officer of any corporation that shall at the time be the successor or assign of the Company.

Section 1.9. SEPARABILITY. In case any provision of this Indenture or any Securities shall be invalid, illegal or unenforceable, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

Section 1.10. BENEFITS OF INDENTURE. Nothing in this Indenture or in any Securities, expressed or implied, shall give to any Person, other than the parties hereto and their successors hereunder, any Agent and the Holders, any benefit or any legal or equitable right, remedy or claim under this Indenture.

Section 1.11. GOVERNING LAW. UNLESS OTHERWISE PROVIDED WITH RESPECT TO ANY SECURITIES OF ANY SERIES PURSUANT TO SECTION 3.1, THIS INDENTURE AND THE SECURITIES APPERTAINING THERETO SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK, INCLUDING ALL MATTERS OF CONSTRUCTION, VALIDITY AND PERFORMANCE. This Indenture is subject to the Trust Indenture Act and if any provision hereof limits, qualifies or conflicts with a provision included in this Indenture which is required by the Trust Indenture Act, the latter provision shall control. If any provision of this Indenture modifies or excludes any provision of the Trust Indenture Act that may be so modified or excluded, the latter provision shall be deemed to apply to this Indenture as so modified, or to be excluded, as the case may be, whether or not such provision of this Indenture refers expressly to such provision of the Trust Indenture Act.

Section 1.12. WAIVER OF JURY TRIAL. EACH OF THE COMPANY, THE TRUSTEE AND EACH HOLDER (BY ITS ACCEPTANCE OF ANY SECURITY) HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS INDENTURE, THE SECURITIES OR THE TRANSACTION CONTEMPLATED HEREBY. EACH OF THE COMPANY, THE TRUSTEE AND EACH HOLDER (BY ITS ACCEPTANCE OF ANY SECURITY) HEREBY IRREVOCABLY SUBMITS TO THE JURISDICTION OF ANY STATE OR U.S. FEDERAL COURT IN THE CITY OF NEW YORK AND COUNTY OF NEW YORK IN RESPECT OF ANY SUIT, ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THE INDENTURE AND THE SECURITIES, AND IRREVOCABLY ACCEPTS FOR ITSELF AND IN RESPECT OF ITS PROPERTY, GENERALLY AND UNCONDITIONALLY, JURISDICTION OF THE AFORESAID COURTS.

Section 1.13. LEGAL HOLIDAYS. Unless otherwise provided with respect to any Security or Securities pursuant to Section 3.1, in any case where any Interest Payment Date, Redemption Date, sinking fund payment date, Stated Maturity or Maturity or other payment date of any Security shall not be a Business Day at any Place of Payment, then, notwithstanding any other provision of this Indenture or any Security, payment of principal, premium, if any or interest or other payments need not be made at such Place of Payment on such date, but may be made on the next succeeding Business Day at such Place of Payment with the same force and effect as if made on such date; provided that no interest shall accrue on the amount so payable for the period from and after such Interest Payment Date, Redemption Date, sinking fund payment date, Stated Maturity or Maturity or other payment date, as the case may be.

Section 1.14. NO RECOURSE AGAINST OTHERS. No past, present or future director, officer, employee, agent, member, manager, trustee or stockholder, as such, of the Company or any successor Person shall have any liability for any obligations of the Company or any successor Person, either directly or through the Company or any successor Person, under the Securities or this Indenture or for any claim based on, in respect of or by reason of such obligations or their creation, whether by virtue of any rule of law, statute or constitutional provision or by the enforcement of any assessment or by any legal or equitable proceeding or otherwise. By accepting a Security, each Holder agrees to the provisions of this Section 1.14 and waives and releases all such liability. Such waiver and release shall be part of the consideration for the issue of the Securities.

ARTICLE II
SECURITY FORMS

Section 2.1. FORMS GENERALLY. The Securities of each series shall be in substantially such form as shall be established in one or more indentures supplemental hereto, in each case with such appropriate insertions, omissions, substitutions and other variations as are required or permitted by this Indenture, and may have such letters, numbers or other marks of identification and such legends or endorsements placed thereon as the Company may deem appropriate or as may be required to comply with any applicable law, rule or regulation or with the rules or usage of any securities exchange or Depository therefor or as may, consistently herewith, be determined by the officers executing such Securities as evidenced by their execution of the Securities. If temporary Securities of any series are issued as permitted by Section 3.4, the form thereof also shall be established as provided in the preceding sentence.

The definitive Securities shall be typeset, printed, lithographed or engraved on steel engraved borders or may be produced in any other manner or medium, all as determined by the officers executing such Securities as evidenced by their execution of such Securities.

Section 2.2. FORM OF TRUSTEE'S CERTIFICATE OF AUTHENTICATION. Subject to Section 6.13 (as applicable to any Authenticating Agent), the Trustee's certificate of authentication shall be in substantially the following form:

This is one of the [Securities] [of the series designated herein and] referred to in the within-mentioned Indenture.

Dated: _____, as Trustee

By: _____
AUTHORIZED SIGNATORY

Section 2.3. SECURITIES IN GLOBAL FORM. If Securities of or within a series are issuable in whole or in part in global form, any such Security may provide that it shall represent the aggregate or specified amount of Outstanding Securities from time to time endorsed thereon and may also provide that the aggregate amount of Outstanding Securities represented thereby may from time to time be reduced or increased to reflect exchanges. Any endorsement of a Security in global form to reflect the amount, or any increase or decrease in the amount, or changes in the rights of Holders, of Outstanding Securities represented thereby, shall be made in such manner and by such Person or Persons as shall be specified therein or in the Company Order to be delivered to the Trustee pursuant to Section 3.3 or 3.4. Subject to the provisions of Section 3.3 and, if applicable, Section 3.4, the Trustee shall deliver and redeliver any security in permanent global form in the manner and upon instructions given by the Person or Persons specified therein or in the applicable Company Order. Any instructions by the Company with respect to endorsement or delivery or redelivery of a Security in global form shall be in writing but need not comply with Section 1.2 hereof and need not be accompanied by an Opinion of Counsel.

The provisions of the last paragraph of Section 3.3 shall apply to any Security in global form if such Security was never issued and sold by the Company and the Company delivers to the Trustee such Security in global form together with written instructions (which need not comply with Section 1.2 and need not be accompanied by an Opinion of Counsel) with regard to the reduction in the principal amount of Securities represented thereby, together with the written statement contemplated by the last paragraph of Section 3.3.

Notwithstanding the provisions of Section 2.1 and 3.7, unless otherwise specified as contemplated by Section 3.1, payment of principal of, premium, if any, and interest on any Security in permanent global form shall be made to the Person or Persons specified therein.

Section 2.4. FORM OF LEGEND FOR SECURITIES IN GLOBAL FORM. Unless otherwise provided with respect to any Securities of any series pursuant to Section 3.1 or required by the Depository, any Security of such series in global form authenticated and delivered hereunder shall bear a legend in substantially the following form:

This Security is in global form within the meaning of the Indenture hereinafter referred to and is registered in the name of a Depository or a nominee of a Depository. Unless and until it is exchanged in whole or in part for Securities in certificated form, this Security may not be transferred except as a whole by the Depository to a nominee of the Depository or by a nominee of the Depository to the Depository or another nominee of the Depository or by the Depository or any such nominee to a successor Depository or a nominee of such successor Depository. Every Security authenticated and delivered upon registration of, or in exchange for, or in lieu of, this Security will be in global form, subject to the foregoing.

ARTICLE III

THE SECURITIES

Section 3.1. AMOUNT UNLIMITED; ISSUABLE IN SERIES. (a) The aggregate principal amount of Securities which may be authenticated, delivered and outstanding under this Indenture is unlimited. The Securities may be issued from time to time in one or more series.

(b) The following matters shall be established, without the approval of any Holders, with respect to each series of Securities issued hereunder in one or more indentures supplemental hereto:

(1) the title of the Securities of the series (which title shall distinguish the Securities of the series from all other series of Securities);

(2) any limit upon the aggregate principal amount of the Securities of the series which may be authenticated, delivered and outstanding under this Indenture (which limit shall not pertain to Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of the series pursuant to Section 3.4, 3.5, 3.6, 8.6, or 10.7 and except for any Securities which, pursuant to Section 3.3, are deemed never to have been authenticated and delivered hereunder);

(3) the date or dates on which the principal of and premium, if any, on the Securities of the series is payable or the method of determination and/or extension of such date or dates; and the amount or amounts of such principal and premium, if any, payments or the method of determination thereof;

(4) the rate or rates (which may be fixed or variable) at which the Securities of the series shall bear interest, if any, or the method of calculating and/or resetting such rate or rates of interest, the date or dates from which such interest shall accrue or the method by which such date or dates shall be determined, the Interest Payment Dates on which any such interest shall be payable or the method by which such dates will be determined, the terms of any deferral of interest and the additional interest, if any, thereon and, with respect to Registered Securities, the Regular Record Date, if any, for the interest payable on any Registered Security on any Interest Payment Date, the right, if any, of the Company to extend the Interest Payment Dates and the Regular Record Date, if any, and the duration of the extensions and the basis upon which interest shall be calculated if other than upon a 360-day year of twelve 30-day months;

(5) the place or places where the principal of, premium, if any, and interest, if any, on Securities of the series shall be payable;

(6) the period or periods within which, the price or prices at which, the currency or currencies (including currency units) in which, and the other terms and conditions upon which, Securities of the series may be redeemed, in whole or in part, at the option of the Company or otherwise, and, if other than as provided in Section 10.3, the manner in which the particular Securities of such series (if less than all Securities of such series are to be redeemed) are to be selected for redemption;

(7) the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund or analogous provisions or upon the happening of a specified event or at the option of a Holder thereof and the period or periods within which, the price or prices at which, and the other terms and conditions upon which, Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation and provisions for the remarketing of such series;

(8) if other than denominations of \$1,000 and any integral multiple thereof, the denominations in which Securities of the series shall be issuable;

(9) if other than Dollars, the currency or currencies (including currency unit or units) in which the principal of, premium, if any, and interest, if any, or other payments, if any, on the Securities of the series shall be payable, or in which the Securities of the series shall be denominated, and the particular provisions applicable thereto in accordance with, in addition to, or in lieu of the provisions of Section 3.11;

(10) the terms, if any, upon which Securities of the series may be convertible into or exchanged for other Securities, Common Stock, Preferred Stock, other debt securities, warrants to purchase any of the foregoing, or other securities of any kind of the Company or any other obligor and the terms and conditions upon which the conversion or exchange shall be effected, including the initial conversion or exchange price or rate, the conversion or exchange period, and any other additional provisions;

(11) if the payments of principal of, premium, if any, or interest, if any, or other payments, if any, on the Securities of the series are to be made, at the election of the Company or a Holder, in a currency or currencies (including currency unit or units) other than that in which such Securities are denominated or designated to be payable, the currency or currencies (including currency unit or units) in which such payments are to be made, the terms and conditions of such payments and the manner in which the exchange rate with respect to such payments shall be determined, and the particular provisions applicable thereto in accordance with, in addition to, or in lieu of the provisions of Section 3.11;

(12) if the amount of payments of principal of, premium, if any, and interest, if any, or other payments, if any, on the Securities of the series shall be determined with reference to an index, formula or other method (which index, formula or method may be based, without limitation, on the price of one or more commodities, derivatives or securities; one or more securities, derivatives or commodities exchange indices or other indices; a currency or currencies (including currency unit or units) other than that in which the Securities of the series are denominated or designated to be payable; or any other variable or the relationship between any variables or combination of variables), the index, formula or other method by which such amounts shall be determined;

(13) if other than the principal amount thereof, the portion of the principal amount of such Securities of the series or other amount which shall be payable upon declaration of acceleration thereof pursuant to Section 5.2 or provable in bankruptcy or the method by which such portion or amount shall be determined;

(14) if other than as provided in Section 3.7, the Person to whom any interest on any Registered Security of the series shall be payable;

(15) if the principal amount payable at the Maturity of any Securities of the series will not be determinable as of one or more dates prior to Maturity, the amount which shall be deemed to be the principal amount of such Securities as of any such date hereunder or thereunder, or, if other than as provided in the definition of the term "Outstanding", which shall be deemed to be Outstanding as of any date prior to the Stated Maturity (or, in any such case, the manner in which such amount deemed to be the principal amount shall be determined) and, if necessary, the manner of determining the equivalent thereof in U.S. currency;

(16) provisions, if any, granting special rights to the Holders of Securities of the series upon the occurrence of such events as may be specified;

(17) the applicability of or any deletions from, modifications of or additions to the Events of Default set forth in Section 5.1 or covenants of the Company set forth in Article IX pertaining to the Securities of the series;

(18) under what circumstances, if any, the Company will pay additional amounts on the Securities of that series held by a Person who is not a U.S. Person in respect of taxes or similar charges withheld or deducted and, if so, whether the Company will have the option to redeem such Securities rather than pay such additional amounts (and the terms of any such option);

(19) the date as of which any temporary global Security representing Outstanding Securities of the series shall be dated if other than the date of original issuance of the first Security of the series to be issued;

(20) the forms of the Securities of the series;

(21) any changes or additions to the provisions provided in Article IV of this Indenture pertaining to defeasance, including without limitation, the exclusion of Section 4.4 or 4.5, or both, with respect to the Securities of or within the series; or the applicability, if any, to the Securities of or within the series of such means of defeasance or covenant defeasance other than those provided in Sections 4.4 and 4.5 as may be specified for the Securities of such series, and whether, for the purpose of any defeasance or covenant defeasance pursuant to Section 4.4 or 4.5 or otherwise, the term "Government Obligations" shall include obligations referred to in the definition of such term which are not obligations of the United States or an agency or instrumentality of the United States;

(22) if other than the Trustee, the identity of the Registrar and any Paying Agent;

(23) any terms which may be related to warrants, options or other rights to purchase and sell securities issued by the Company in connection with, or for the purchase of, Securities of such series, including whether and under what circumstances the Securities of any series may be used toward the exercise price of any such warrants, options or other rights;

(24) the designation of the initial Exchange Rate Agent, if any;

(25) whether any of the Securities of the series shall be issued in whole or in part in global form, and if so (i) the Depository for such global Securities, (ii) the form of any legend in addition to or in lieu of that in Section 2.4 which shall be borne by such global Securities, (iii) whether beneficial owners of interests in any Securities of the series in global form may exchange such interests for certificated Securities of such series and of like tenor of any authorized form and denomination, and (iv) if other than as provided in Section 3.5, the circumstances under which any such exchange may occur;

(26) the priority, ranking or subordination, if any, of the Securities of the series;

(27) if the Securities of the series will be governed by, and the extent to which such Securities will be governed by, any law other than the laws of the state of New York;

(28) the terms, if any, of any guarantee of the payment of principal, premium and interest with respect to Securities of the series and any corresponding changes to the provisions of this Indenture as then in effect;

(29) the terms, if any, of the transfer, mortgage, pledge or assignment as security for the Securities of the series of any properties, assets, moneys, proceeds, securities or other collateral, including whether certain provisions in the Trust Indenture Act are applicable and any corresponding changes to provisions of this Indenture as then in effect; and

(30) any other terms of the series, including any terms which may be required by or advisable under United States laws or regulations or advisable (as determined by the Company) in connection with the marketing of Securities of the series.

(c) The terms applicable to the Securities of any one series need not be identical but may vary as may be provided in an indenture supplemental hereto. All Securities of any one series need not be issued at the same time and, unless otherwise provided, a series may be reopened, without the consent of the Holders, for issuances of additional Securities of such series.

(d) Except as may be otherwise expressly provided in the applicable supplemental indenture, as contemplated by this Section 3.1, the Securities of any series shall rank PARI PASSU with the Securities of each other Series.

Section 3.2. DENOMINATIONS. Unless otherwise provided as contemplated by Section 3.1, any Securities of a series shall be issuable in denominations of \$1,000 and any integral multiple thereof.

Section 3.3. EXECUTION, AUTHENTICATION, DELIVERY AND DATING. Securities shall be executed on behalf of the Company by the Chief Executive Officer, the Chief Financial Officer, the President, or any Vice President, the Treasurer or the Corporate Secretary of the Company. The seal of the Company, if any, may be in the form of a facsimile thereof and may be impressed, affixed, imprinted or otherwise reproduced on the Securities. The signatures of any of these officers on the Securities may be manual or facsimile.

Securities bearing the manual or facsimile signatures of individuals who were at any time the proper officers of the Company shall bind the Company, notwithstanding that such individuals or any of them have ceased to hold such offices prior to the authentication and delivery of such Securities or did not hold such offices at the date of such Securities.

At any time and from time to time, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a Company Order for the authentication and delivery of such Securities, and the Trustee in accordance with the Company Order shall authenticate and deliver such Securities.

In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities, the Trustee shall be entitled to receive, and (subject to section 315(a) through (d) of the Trust Indenture Act) shall be fully protected in relying upon, an Opinion of Counsel substantially to the effect that,

(1) the form of such Securities have been established in conformity with the provisions of this Indenture;

(2) the terms of such Securities have been, or in the case of Securities of a series offered in a Periodic Offering will be, established in conformity with the provisions of this Indenture, subject in the case of Securities offered in a Periodic Offering, to any conditions specified in such Opinion of Counsel; and

(3) such Securities, when authenticated and delivered by the Trustee, issued by the Company in accordance with the provisions of this Indenture, and delivered to and duly paid for by the purchasers thereof, and subject to any conditions specified in such Opinion of Counsel, will constitute legal, valid and binding obligations of the Company, enforceable in accordance with their terms, subject to bankruptcy, insolvency, fraudulent transfer, reorganization, moratorium and other similar laws of general applicability relating to or affecting the enforcement of creditors' rights and to general equity principles and except further as enforcement thereof may be limited by or subject to certain exceptions and qualifications specified in such Opinion of Counsel, including in the case of any Securities denominated in a Foreign Currency, (A) requirements that a claim with respect to any Securities denominated other than in Dollars (or a foreign currency or foreign currency unit judgment in respect of such claim) be converted into Dollars at a rate of exchange prevailing on a date determined pursuant to applicable law or (B) governmental authority to limit, delay or prohibit the making of payments in foreign currency or currency units or payments outside the United States.

Such Opinion of Counsel need express no opinion as to whether a court in the United States would render a money judgment in a currency other than that of the United States. Such counsel may rely on opinions of other counsel (copies of which shall be delivered to the Trustee), and, to the extent such opinion involves factual matters, such counsel may rely upon certificates of officers of the Company and certificates of public officials.

The Trustee shall have the right to decline to execute any supplemental indenture establishing the terms of or the form of such Securities if, in the written opinion of counsel to the Trustee (which counsel may be an employee of the Trustee), such action may not lawfully be taken, or if the Trustee, in good faith by a Responsible Officer of the Trustee, shall determine, in its sole discretion, that such action would adversely affect it.

Notwithstanding the provisions of Section 3.1 and of the two preceding paragraphs, if all of the Securities of any series are not to be issued at one time, it shall not be necessary to deliver the Officer's Certificate otherwise required pursuant to Section 3.1 or the Company Order and Opinion of Counsel otherwise required pursuant to the two preceding paragraphs in connection with the authentication of each Security of such series if such documents, with appropriate modifications to cover such future issuances, are delivered at or prior to the authentication upon original issuance of the first Security of such series to be issued.

With respect to Securities of a series offered in a Periodic Offering, the Trustee may rely, as to the authorization by the Company of any of such Securities, the form and terms thereof and the legality, validity, binding effect and enforceability thereof, upon the Opinion of Counsel and the other documents delivered pursuant to Sections 2.1 and 3.1 and this Section, as applicable, in connection with the first authentication of Securities of such series.

If the Company shall establish pursuant to Section 3.1 that the Securities of a series are to be issued in whole or in part in global form, then, unless otherwise provided with respect to such Securities pursuant to Section 3.1, the Company shall execute and the Trustee shall, in accordance with this Section and the Company Order with respect to such series, authenticate and deliver one or more Securities in global form that (i) shall represent and shall be denominated in an amount equal to the aggregate principal amount of the Outstanding Securities of such series to be represented by such Security or Securities in global form, (ii) shall be registered, if a Registered Security, in the name of the Depository for such Security or Securities in global form or the nominee of such Depository, (iii) shall be delivered by the Trustee to such Depository or pursuant to such Depository's instruction and (iv) shall bear the legend set forth in Section 2.4.

Unless otherwise established pursuant to Section 3.1, each Depository designated pursuant to Section 3.1 for a Registered Security in global form must, at the time of its designation and at all times while it serves as Depository, be a clearing agency registered under the Securities Exchange Act of 1934, as amended, and any other applicable statute or regulation. Neither the Company nor the Trustee shall have any responsibility to determine if the Depository is so registered.

Each Depository shall enter into an agreement with the Company and the Trustee, as agent, governing the respective duties and rights of such Depository, the Company and the Trustee, as agent, with regard to Securities of a series issued in global form.

Each Registered Security shall be dated the date of its authentication as contemplated by Section 3.1.

No Security shall be entitled to any benefits under this Indenture or be valid or obligatory for any purpose until authenticated by the manual signature of one of the authorized signatories of the Trustee or an Authenticating Agent. Such signature upon any Security shall be conclusive evidence, and the only evidence, that such Security has been duly authenticated and delivered under this Indenture and is entitled to the benefits of this Indenture.

Notwithstanding the foregoing, if any Security shall have been authenticated and delivered hereunder but never issued and sold by the Company, and the Company shall deliver such Security to the Trustee for cancellation as provided in Section 3.9 together with a written statement (which need not comply with Section 1.2 and need not be accompanied by an Opinion of Counsel) stating that such Security has never been issued and sold by the Company, for all purposes of this Indenture such Security shall be deemed never to have been authenticated and delivered hereunder and shall not be entitled to the benefits of this Indenture.

Section 3.4. TEMPORARY SECURITIES. Pending the preparation of definitive Securities of any series, the Company may execute and, upon Company Order, the Trustee shall authenticate and deliver temporary Securities of such series which are printed, lithographed, typewritten, mimeographed or otherwise produced, in any authorized denomination, substantially of the tenor and form, of the definitive Securities in lieu of which they are issued and with such appropriate insertions, omissions, substitutions and other variations as the officers executing such Securities may determine, as conclusively evidenced by their execution of such Securities. In the case of Securities of any series, all or a portion of such temporary Securities may be in global form.

Except in the case of temporary Securities in global form, each of which shall be exchanged in accordance with the provisions thereof, if temporary Securities of any series are issued, the Company will cause definitive Securities of such series to be prepared without unreasonable delay. After preparation of definitive Securities of such series, the temporary Securities of such series shall be exchangeable for definitive Securities of such series upon surrender of the temporary Securities of such series at the office or agency of the Company pursuant to Section 9.2 in a Place of Payment for such series, without charge to the Holder. Upon surrender for cancellation of any one or more temporary Securities of any series, the Company shall execute and the Trustee shall authenticate and deliver in exchange therefor a like principal amount of definitive Securities of the same series of authorized denominations and of like tenor. Until so exchanged, the temporary Securities of any series shall in all respects be entitled to the same benefits under this Indenture as definitive Securities of such series except as otherwise specified as contemplated by Section 3.1.

Section 3.5. REGISTRATION, TRANSFER AND EXCHANGE. The Company shall cause to be kept at the Corporate Trust Office of the Trustee or in any office or agency to be maintained by the Company in accordance with Section 9.2 in a Place of Payment or in such other place or medium as may be specified pursuant to Section 3.1 a register for each series of Securities (the registers maintained in such office or in any such office or agency of the Company in a Place of Payment being herein sometimes referred to collectively as the "Register") in which, subject to such reasonable regulations as it may prescribe, the Company shall provide for the registration of Registered Securities and the registration of transfers of Registered Securities. The Register shall be in written form or any other form capable of being converted into written form within a reasonable time. Unless otherwise provided as contemplated by Section 3.1, the Trustee is hereby appointed "Registrar" for the purpose of registering Registered Securities and transfers of Registered Securities, and for the purpose of maintaining the Register in respect thereof, as herein provided.

Upon surrender for registration of transfer of any Registered Security of any series at the office or agency maintained pursuant to Section 9.2 in a Place of Payment for that series, the Company shall execute, and the Trustee shall authenticate and deliver, in the name of the designated transferee or transferees, one or more new Registered Securities of the same series, of any authorized denominations and of a like aggregate principal amount.

Unless otherwise provided as contemplated by Section 3.1, at the option of the Holder, Registered Securities of any series (except a Registered Security in global form) may be exchanged for other Registered Securities of the same series, of any authorized denominations and of a like aggregate principal amount containing identical terms and provisions, upon surrender of the Registered Securities to be exchanged at such office or agency. Whenever any Registered Securities are so surrendered for exchange, the Company shall execute, and the Trustee shall authenticate and deliver, the Registered Securities which the Holder making the exchange is entitled to receive.

Unless otherwise specified pursuant to Section 3.1 with respect to a series of Securities or as otherwise provided below in this Section 3.5, owners of beneficial interests in Securities of such series represented by a Security issued in global form will not be entitled to have Securities of such series registered in their names, will not receive or be entitled to receive physical delivery of Securities of such series in certificated form and will not be considered the Holders or owners thereof for any purposes hereunder. Notwithstanding any other provision of this Section, unless and until it is exchanged in whole or in part for Securities in certificated form in the circumstances described below, a Security in global form representing all or a portion of the Securities of a series may not be transferred or exchanged except as a whole by the Depository for such series to a nominee of such Depository or by a nominee of such Depository to such Depository or another nominee of such Depository or by such Depository or any such nominee to a successor Depository for such series or a nominee of such successor Depository.

If at any time the Depository for the Securities of a series notifies the Company that it is unwilling or unable to continue as Depository for the Securities of such series or if at any time the Depository for the Securities of such series notifies the Company that it shall no longer be eligible under Section 3.3, the Company shall appoint a successor Depository with respect to the Securities of such series. Unless otherwise provided as contemplated by Section 3.1, if a successor Depository for the Securities of such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such ineligibility, the Company's election pursuant to Section 3.1(b) (25) shall no longer be effective with respect to the Securities of such series and the Company shall execute, and the Trustee, upon receipt of a Company Order for the authentication and delivery of certificated Securities of such series of like tenor, shall authenticate and deliver, Securities of such series of like tenor in certificated form, in authorized denominations and in an aggregate principal amount equal to the principal amount of the Security or Securities of such series of like tenor in global form in exchange for such Security or Securities in global form.

The Company may at any time in its sole discretion determine that Securities of a series issued in global form shall no longer be represented by such a Security or Securities in global form. In such event the Company shall execute, and the Trustee, upon receipt of a Company Order for the authentication and delivery of certificated Securities of such series of like tenor, shall authenticate and deliver, Securities of such series of like tenor in certificated form, in authorized denominations and in an aggregate principal amount equal to the principal amount of the Security or Securities of such series of like tenor in global form in exchange for such Security or Securities in global form.

If specified by the Company pursuant to Section 3.1 with respect to a series of Securities, the Depository for such series may surrender a Security in global form of such series in exchange in whole or in part for Securities of such series in certificated form on such terms as are acceptable to the Company and such Depository. Thereupon, the Company shall execute, and the Trustee shall authenticate and deliver, without service charge,

(i) to each Person specified by such Depository a new certificated Security or Securities of the same series of like tenor, of any authorized denomination as requested by such Person in aggregate principal amount equal to and in exchange for such Person's beneficial interest in the Security in global form; and

(ii) to such Depository a new Security in global form of like tenor in a denomination equal to the difference, if any, between the principal amount of the surrendered Security in global form and the aggregate principal amount of certificated Securities delivered to Holders thereof.

(iii) Upon the exchange of a Security in global form for Securities in certificated form, such Security in global form shall be cancelled by the Trustee. Securities in certificated form issued in exchange for a Security in global form pursuant to this Section shall be registered in such names and in such authorized denominations as the Depository for such Security in global form, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. The Trustee shall deliver such Securities to the Persons in whose names such Securities are so registered.

Whenever any Securities are surrendered for exchange, the Company shall execute, and the Trustee shall authenticate and deliver, the Securities which the Holder making the exchange is entitled to receive.

All Securities issued upon any registration of transfer or upon any exchange of Securities shall be the valid obligations of the Company, evidencing the same debt, and entitled to the same benefits under this Indenture, as the Securities surrendered upon such registration of transfer or exchange.

Every Registered Security presented or surrendered for registration of transfer or for exchange shall (if so required by the Company, the Registrar or the Trustee) be duly endorsed, or be accompanied by a written instrument of transfer in form satisfactory to the Company, the Registrar and the Trustee duly executed by the Holder thereof or his attorney duly authorized in writing.

Unless otherwise provided as contemplated by Section 3.1, no service charge shall be made for any registration of transfer or for any exchange of Securities, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in connection with any registration or transfer or exchange of Securities, other than exchanges pursuant to Section 3.4 or 10.7 not involving any transfer.

Unless otherwise provided as contemplated by Section 3.1, none of the Company, the Registrar or the Trustee shall be required (i) to issue, register the transfer of, or exchange any Securities for a period beginning at the opening of 15 Business Days before any selection for redemption of Securities of like tenor and of the series of which such Security is a part and ending at the close of business on the earliest date on which the relevant notice of redemption is deemed to have been given to all Holders of Securities of like tenor and of such series to be redeemed; or (ii) to register the transfer of or exchange any Registered Security so selected for redemption, in whole or in part, except the unredeemed portion of any Security being redeemed in part.

Section 3.6. REPLACEMENT SECURITIES. If a mutilated Security is surrendered to the Trustee, together with, in proper cases, such security or indemnity as may be required by the Company or the Trustee to save each of them harmless, the Company shall execute and the Trustee shall authenticate and deliver a replacement Registered Security, if such surrendered Security was a Registered Security of the same series and date of maturity.

If there shall be delivered to the Company and the Trustee (i) evidence to their satisfaction of the destruction, loss or theft of any Security and (ii) such security or indemnity as may be required by them to save each of them and any agent of either of them harmless, then, in the absence of notice to the Company or the Trustee that such Security has been acquired by a bona fide purchaser, the Company shall execute and the Trustee shall authenticate and deliver in lieu of any such destroyed, lost or stolen Security a replacement Registered Security, if such Holder's claim appertains to a Registered Security, of the same series and principal amount, containing identical terms and provisions and bearing a number not contemporaneously outstanding.

In case any such mutilated, destroyed, lost or stolen Security has become or is about to become due and payable, the Company in its discretion may, instead of issuing a new Security, pay such Security.

Upon the issuance of any new Security under this Section, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee, its agents and counsel) connected therewith.

Every new Security of any series issued pursuant to this Section in lieu of any destroyed, lost or stolen Security shall constitute an original additional contractual obligation of the Company, whether or not the destroyed, lost or stolen Security shall be at any time enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities of that series duly issued hereunder.

The provisions of this Section are exclusive and shall preclude (to the extent lawful) all other rights and remedies with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities.

Section 3.7. PAYMENT OF INTEREST; INTEREST RIGHTS PRESERVED.

(a) Unless otherwise provided as contemplated by Section 3.1, interest, if any, on any Registered Security which is payable, and is punctually paid or duly provided for, on any Interest Payment Date shall be paid to the Person in whose name that Security (or one or more Predecessor Securities) is registered at the close of business on the Regular Record Date for such interest at the office or agency maintained for such purpose pursuant to 9.2; provided, however, that at the option of the Company, interest on any series of Registered Securities that bear interest may be paid (i) by check mailed to the address of the Person entitled thereto as it shall appear on the Register of Holders of Securities of such series or (ii) by wire transfer to an account maintained by the Person entitled thereto as specified in the Register of Holders of Securities of such series.

(b) Unless otherwise provided as contemplated by Section 3.1, any interest on any Registered Security of any series which is payable, but is not punctually paid or duly provided for, on any interest payment date (herein called "Defaulted Interest") shall forthwith cease to be payable to the Holder on the relevant Regular Record Date by virtue of having been such Holder, and such Defaulted Interest may be paid by the Company, at its election in each case, as provided in clause (1) or (2) below:

(1) The Company may elect to make payment of any Defaulted Interest to the Persons in whose names such Registered Securities of such series (or their respective Predecessor Securities) are registered at the close of business on a Special Record Date for the payment of such Defaulted Interest, which shall be fixed in the following manner. The Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause (1) provided. Thereupon the Trustee shall fix a Special Record Date for the payment of such Defaulted Interest which shall be not more than 15 days and not less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such Special Record Date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor to be mailed, first-class postage prepaid, to each Holder of such Registered Securities of such series at his address as it appears in the Register, not less than 10 days prior to such Special Record Date. Notice of the proposed payment of such Defaulted Interest and the Special Record Date therefor having been so mailed, such Defaulted Interest shall be paid to the Persons in whose names such Registered Securities of such series (or their respective Predecessor Securities) are registered at the close of business on such Special Record Date and shall no longer be payable pursuant to the following clause (2).

(2) The Company may make payment of any Defaulted Interest to the Persons in whose names such Registered Securities of such series (or their respective Predecessor Securities) are registered at the close of business on a specified date in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Registered Securities may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this clause (2), such manner of payment shall be deemed practicable by the Trustee.

(c) Subject to the foregoing provisions of this Section and Section 3.5, each Security delivered under this Indenture upon registration of transfer of or in exchange for or in lieu of any other Security shall carry the rights to interest accrued and unpaid, and to accrue, which were carried by such other Security.

Section 3.8. PERSONS DEEMED OWNERS. Prior to due presentment of any Registered Security for registration of transfer, the Company, the Trustee and any agent of the Company or the Trustee may treat the Person in whose name such Registered Security is registered as the owner of such Registered Security for the purpose of receiving payment of principal of, premium, if any, and (subject to Section 3.7) interest and any other payments on such Registered Security and for all other purposes whatsoever, whether or not such Registered Security shall be overdue, and neither the Company, the Trustee nor any agent of the Company or the Trustee shall be affected by notice to the contrary.

None of the Company, the Trustee or any agent of the Company or the Trustee shall have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests of a Security in global form, or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests. Notwithstanding the foregoing, with respect to any Security in global form, nothing herein shall prevent the Company or the Trustee, or any agent of the Company or the Trustee, from giving effect to any written certification, proxy or other authorization furnished by any Depository (or its nominee), as a Holder, with respect to such Security in global form or impair, as between such Depository and owners of beneficial interests in such Security in global form, the operation of customary practices governing the exercise of the rights of such Depository (or its nominee) as Holder of such Security in global form.

Section 3.9. CANCELLATION. The Company at any time may deliver Securities to the Trustee for cancellation. The Registrar and any Paying Agent shall forward to the Trustee any Securities surrendered to them for replacement, for registration of transfer, or for exchange or payment. The Trustee shall cancel all Securities surrendered for replacement, for registration of transfer, or for exchange, payment, redemption or cancellation and may destroy cancelled Securities and, if so destroyed, shall issue a certificate of destruction to the Company. The Company may not issue new Securities to replace Securities that it has paid or delivered to the Trustee for cancellation.

Section 3.10. COMPUTATION OF INTEREST. Except as otherwise specified as contemplated by Section 3.1, interest on the Securities of each series shall be computed on the basis of a 360-day year of twelve 30-day months.

Section 3.11. CURRENCY AND MANNER OF PAYMENT IN RESPECT OF SECURITIES. (a) Unless otherwise specified with respect to any Securities pursuant to Section 3.1, with respect to Registered Securities of any series payment of the principal of, premium, if any, interest, if any, and other amounts, if any, on any Registered Security of such series will be made in the currency or currencies or currency unit or units in which such Registered Security is payable. The provisions of this Section 3.11, including without limitation any defined terms specified herein, may be modified or superseded in whole or in part pursuant to Section 3.1 with respect to any Securities.

(b) If expressly specified pursuant to Section 3.1, with respect to Registered Securities of any series, Holders shall have the option, subject to paragraphs (d) and (e) below, to receive payments of principal of, premium, if any, or interest, if any, on such Registered Securities in any of the currencies or currency units which may be designated for such election by delivering to the Trustee (or the applicable Paying Agent) a written election with signature guarantees and in the applicable form established pursuant to Section 3.1, not later than the close of business on the Election Date immediately preceding the applicable payment date. If a Holder so elects to receive such payments in any such currency or currency unit, such election will remain in effect for such Holder or any transferee of such Holder until changed by such Holder or such transferee by written notice to the Trustee (or any applicable Paying Agent) for such series of Registered Securities (but any such change must be made not later than the close of business on the Election Date immediately preceding the next payment date to be effective for the payment to be made on such payment date, and no such change of election may be made with respect to payments to be made on any Registered Security of such series with respect to which an Event of Default has occurred or with respect to which the Company has deposited funds pursuant to Article IV or with respect to which a notice of redemption has been given by or on behalf of the Company). Any Holder of any such Registered Security who shall not have delivered any such election to the Trustee (or any applicable Paying Agent) not later than the close of business on the applicable Election Date will be paid the amount due on the applicable payment date in the relevant currency or currency unit as provided in Section 3.11(a). The Trustee (or the applicable Paying Agent) shall notify the Company and the Exchange Rate Agent as soon as practicable after the Election Date of the aggregate principal amount of Registered Securities for which Holders have made such written election.

(c) If the election referred to in paragraph (b) above has been provided for with respect to any Registered Securities of a series pursuant to Section 3.1, then, unless otherwise specified pursuant to Section 3.1 with respect to any such Registered Securities, not later than the fourth Business Day after the Election Date for each payment date for such Registered Securities, the Exchange Rate Agent will deliver to the Company a written notice specifying, in the currency or currencies or currency unit or units in which Registered Securities of such series are payable, the respective aggregate amounts of principal of, premium, if any, and interest, if any, on such Registered Securities to be paid on such payment date, and specifying the amounts in such currency or currencies or currency unit or units so payable in respect of such Registered Securities as to which the Holders of such Registered Securities denominated in any currency or currencies or currency unit or units shall have elected to be paid in another currency or currency unit as provided in paragraph (b) above. If the election referred to in paragraph (b) above has been provided for with respect to any Registered Securities of a series pursuant to Section 3.1, and if at least one Holder has made such election, then, unless otherwise specified pursuant to Section 3.1, on the second Business Day preceding such payment date the Company will deliver to the Trustee (or the applicable Paying Agent) an Exchange Rate Officer's Certificate in respect of the Dollar, Foreign Currency or Currencies or other currency unit payments to be made on such payment date. Unless otherwise specified pursuant to Section 3.1, the Dollar, Foreign Currency or Currencies or other currency unit amount receivable by Holders of Registered Securities who have elected payment in a currency or currency unit as provided in paragraph (b) above shall be determined by the Company on the basis of the applicable Market Exchange Rate in effect on the second Business Day (the "Valuation Date") immediately preceding each payment date, and such determination shall be conclusive and binding for all purposes, absent manifest error.

(d) If a Conversion Event occurs with respect to a Foreign Currency or any other currency unit in which Securities of any series are denominated or payable otherwise than pursuant to an election provided for pursuant to paragraph (b) above, then, unless otherwise specified pursuant to Section 3.1, with respect to each date for the payment of principal of, premium, if any, and interest, if any, on the applicable Securities denominated or payable in such Foreign Currency or such other currency unit occurring after the last date on which such Foreign Currency or such other currency unit was used (the "Conversion Date"), the Dollar shall be the currency of payment for use on each such payment date (but such Foreign Currency or such other currency unit that was previously the currency of payment shall, at the Company's election, resume being the currency of payment on the first such payment date preceded by 15 Business Days during which the circumstances which gave rise to the Dollar becoming such currency of payment no longer prevail). Unless otherwise specified pursuant to Section 3.1, the Dollar amount to be paid by the Company to the Trustee or any applicable Paying Agent and by the Trustee or any applicable Paying Agent to the Holders of such Securities with respect to such payment date shall be, in the case of a Foreign Currency other than a currency unit, the Dollar Equivalent of the Foreign Currency or, in the case of a Foreign Currency that is a currency unit, the Dollar Equivalent of the Currency Unit, in each case as determined by the Exchange Rate Agent in the manner provided in paragraph (f) or (g) below.

(e) Unless otherwise specified pursuant to Section 3.1, if the Holder of a Registered Security of a series denominated in any currency or currency unit shall have elected to be paid in another currency or currency unit or in other currencies as provided in paragraph (b) above, and (i) a Conversion Event occurs with respect to any such elected currency or currency unit, such Holder shall receive payment in the currency or currency unit in which payment would have been made in the absence of such election and (ii) if a Conversion Event occurs with respect to the currency or currency unit in which payment would have been made in the absence of such election, such Holder shall receive payment in Dollars as provided in paragraph (d) of this Section 3.11 (but, subject to any contravening valid election pursuant to paragraph (b) above, the elected payment currency or currency unit, in the case of the circumstances described in clause (i) above, or the payment currency or currency unit in the absence of such election, in the case of the circumstances described in clause (ii) above, shall, at the Company's election, resume being the currency or currency unit of payment with respect to Holders who have so elected, but only with respect to payments on payment dates preceded by 15 Business Days during which the circumstances which gave rise to such currency or currency unit, in the case of the circumstances described in clause (i) above, or the Dollar, in the case of the circumstances described in clause (ii) above, becoming the currency or currency unit, as applicable, of payment, no longer prevail).

(f) The "Dollar Equivalent of the Foreign Currency" shall be determined by the Exchange Rate Agent and shall be obtained for each subsequent payment date by the Exchange Rate Agent by converting the specified Foreign Currency into Dollars at the Market Exchange Rate on the Conversion Date.

(g) The "Dollar Equivalent of the Currency Unit" shall be determined by the Exchange Rate Agent and, subject to the provisions of paragraph (h) below, shall be the sum of each amount obtained by converting the Specified Amount of each Component Currency (as each such term is defined in paragraph (h) below) into Dollars at the Market Exchange Rate for such Component Currency on the Valuation Date with respect to each payment.

(h) For purposes of this Section 3.11, the following terms shall have the following meanings:

A "Component Currency" shall mean any currency which, on the Conversion Date, was a component currency of the relevant currency unit.

"Conversion Event" shall mean the cessation of use of (i) a Foreign Currency both by the government of the country which issued such currency and for the settlement of transactions by a central bank or other public institutions of or within the international banking community, or (ii) any currency unit for the purposes for which it was established.

“Election Date” shall mean the Regular Record Date for the applicable series of Registered Securities as specified pursuant to Section 3.1 by which the written election referred to in Section 3.11(b) may be made.

“Exchange Rate Agent”, when used with respect to Securities of or within any series, shall mean, unless otherwise specified with respect to such series of Securities pursuant to Section 3.1, a New York Clearing House bank designated pursuant to Section 3.1 or Section 3.12.

“Exchange Rate Officer’s Certificate” shall mean a certificate setting forth (i) the applicable Market Exchange Rate or the applicable bid quotation and (ii) the Dollar or Foreign Currency amounts of principal (and premium, if any) and interest, if any (on an aggregate basis and on the basis of a Security having the lowest denomination principal amount in the relevant currency or currency unit), payable with respect to a Security of any series on the basis of such Market Exchange Rate or the applicable bid quotation, signed by the President, the Chief Executive Officer, the Chief Financial Officer, any Vice President, the Treasurer, or any Assistant Treasurer of the Company.

“Market Exchange Rate” shall mean, unless otherwise specified with respect to Securities of any series pursuant to Section 3.1, as of any date of determination, (i) for any conversion involving a currency unit on the one hand and Dollars or any Foreign Currency on the other, the exchange rate between the relevant currency unit and Dollars or such Foreign Currency calculated by the method specified pursuant to Section 3.1 for the Securities of the relevant series, (ii) for any conversion of Dollars into any Foreign Currency, the noon buying rate for such Foreign Currency for cable transfers quoted in New York City as certified for customs purposes by the Federal Reserve Bank of New York and (iii) for any conversion of one Foreign Currency into Dollars or another Foreign Currency, the spot rate at noon local time in the relevant market at which, in accordance with normal banking procedures, the Dollars or Foreign Currency into which conversion is being made could be purchased with the Foreign Currency from which conversion is being made from major banks located in New York City, London or any other principal market for Dollars or such purchased Foreign Currency, in each case determined by the Exchange Rate Agent. Unless otherwise specified with respect to Securities of any series pursuant to Section 3.1, in the event of the unavailability of any of the exchange rates provided for in the foregoing clauses (i), (ii) and (iii), the Exchange Rate Agent shall use, in its sole discretion and without liability on its part, such quotation of the Federal Reserve Bank of New York as of the most recent available date, or quotations from one or more major banks in New York City, London or other principal market for such currency or currency unit in question (which may include any such bank acting as Trustee under this Indenture), or such other quotations as the Exchange Rate Agent shall deem appropriate. Unless otherwise specified by the Exchange Rate Agent, if there is more than one market for dealing in any currency or currency unit by reason of foreign exchange regulations or otherwise, the market to be used in respect of such currency or currency unit shall be that upon which a nonresident issuer of securities designated in such currency or currency unit would purchase such currency or currency unit in order to make payments in respect of such securities.

A “Specified Amount” of a Component Currency shall mean the number of units of such Component Currency or fractions thereof which such Component Currency represented in the relevant currency unit on the Conversion Date. If after the Conversion Date the official unit of any Component Currency is altered by way of combination or subdivision, the Specified Amount of such Component Currency shall be divided or multiplied in the same proportion. If after the Conversion Date two or more Component Currencies are consolidated into a single currency, the respective Specified Amounts of such Component Currencies shall be replaced by an amount in such single currency equal to the sum of the respective Specified Amounts of such consolidated Component Currencies expressed in such single currency, and such amount shall thereafter be a Specified Amount and such single currency shall thereafter be a Component Currency. If after the Conversion Date any Component Currency shall be divided into two or more currencies, the Specified Amount of such Component Currency shall be replaced by specified amounts of such two or more currencies, the sum of which, at the Market Exchange Rate of such two or more currencies on the date of such replacement, shall be equal to the Specified Amount of such former Component Currency and such amounts shall thereafter be Specified Amounts and such currencies shall thereafter be Component Currencies. If, after the Conversion Date of the relevant currency unit, a Conversion Event (other than any event referred to above in this definition of “Specified Amount”) occurs with respect to any Component Currency of such currency unit and is continuing on the applicable Valuation Date, the Specified Amount of such Component Currency shall, for purposes of calculating the Dollar Equivalent of the Currency Unit, be converted into Dollars at the Market Exchange Rate in effect on the Conversion Date of such Component Currency.

All decisions and determinations of the Exchange Rate Agent regarding the Dollar Equivalent of the Foreign Currency, the Dollar Equivalent of the Currency Unit, the Market Exchange Rate and changes in the Specified Amounts as specified above with respect to Securities of any series shall be in its sole discretion and shall, in the absence of manifest error, be conclusive for all purposes and irrevocably binding upon the Company, the Trustee (and any applicable Paying Agent) and all Holders of Securities of such series denominated or payable in the relevant currency, currencies or currency units. The Exchange Rate Agent shall promptly give written notice to the Company and the Trustee of any such decision or determination.

In the event that the Company determines in good faith that a Conversion Event has occurred with respect to a Foreign Currency, the Company will promptly give written notice thereof to the Trustee (or any applicable Paying Agent) and to the Exchange Rate Agent (and the Trustee (or such Paying Agent) will promptly thereafter give notice in the manner provided in Section 1.6 to the affected Holders) specifying the Conversion Date. In the event the Company so determines that a Conversion Event has occurred with respect to any currency unit in which Securities of a series are denominated or payable, the Company will promptly give written notice thereof to the Trustee (or any applicable Paying Agent) and to the Exchange Rate Agent (and the Trustee (or such Paying Agent) will promptly thereafter give notice in the manner provided in Section 1.6 to the affected Holders) specifying the Conversion Date and the Specified Amount of each Component Currency on the Conversion Date. In the event the Company determines in good faith that any subsequent change in any Component Currency as set forth in the definition of Specified Amount above has occurred, the Company will similarly give written notice to the Trustee (or any applicable Paying Agent) and to the Exchange Rate Agent.

The Trustee of the appropriate series of Securities shall be fully justified and protected in relying and acting upon information received by it from the Company and the Exchange Rate Agent and shall not otherwise have any duty or obligation to determine the accuracy or validity of such information independent of the Company or the Exchange Rate Agent.

Section 3.12. APPOINTMENT AND RESIGNATION OF EXCHANGE RATE AGENT. (a) Unless otherwise specified pursuant to Section 3.1, if and so long as the Securities of any series (i) are denominated in a currency or currency unit other than Dollars or (ii) may be payable in a currency or currency unit other than Dollars, or so long as it is required under any other provision of this Indenture, then the Company will maintain with respect to each such series of Securities, or as so required, at least one Exchange Rate Agent. The Company will cause the Exchange Rate Agent to make the necessary foreign exchange determinations at the time and in the manner specified pursuant to Section 3.11 for the purpose of determining the applicable rate of exchange and, if applicable, for the purpose of converting the issued currency or currencies or currency unit or units into the applicable payment currency or currency unit for the payment of principal, premium, if any, and interest, if any, pursuant to Section 3.11.

(b) No resignation of the Exchange Rate Agent and no appointment of a successor Exchange Rate Agent pursuant to this Section shall become effective until the acceptance of appointment by the successor Exchange Rate Agent as evidenced by a written instrument delivered to the Company and the Trustee of the appropriate series of Securities accepting such appointment executed by the successor Exchange Rate Agent.

(c) If the Exchange Rate Agent shall resign, be removed or become incapable of acting, or if a vacancy shall occur in the office of the Exchange Rate Agent for any cause, with respect to the Securities of one or more series, the Company shall promptly appoint a successor Exchange Rate Agent or Exchange Rate Agents with respect to the Securities of that or those series (it being understood that any such successor Exchange Rate Agent may be appointed with respect to the Securities of one or more or all of such series and that, unless otherwise specified pursuant to Section 3.1, at any time there shall only be one Exchange Rate Agent with respect to the Securities of any particular series that are originally issued by the Company on the same date and that are initially denominated and/or payable in the same currency or currencies or currency unit or units).

Section 3.13. WIRE TRANSFERS. Notwithstanding any other provisions to the contrary in this Indenture, the Company may make any payment of monies required to be deposited with the Trustee on account of principal of, or premium, if any, or interest on, Securities of any series (whether pursuant to optional or mandatory redemption payments, interest payment or otherwise) by wire transfer and immediately available funds to an account designated by the Trustee on or before the date and time such monies are to be paid to the Holders of the Security of such series in accordance with the terms hereof.

Section 3.14. CUSIP NUMBERS AND ISINS. The Company in issuing Securities may use "CUSIP" numbers or "ISINS", and if so, the Trustee may use the CUSIP numbers or ISINS in notices of redemption or exchange as a convenience to Holders; provided, however, that any such notice may state that no representation is made as to the correctness or accuracy of the CUSIP number or ISIN printed in the notice or on the Securities, that reliance may be placed only on the other identification numbers printed on the Securities, and any such redemption or exchange shall not be affected by any defect or omission of such CUSIP numbers or ISINS. The Company will promptly notify the Trustee of any change in CUSIP numbers or ISINS known to an Officer of the Company.

ARTICLE IV

SATISFACTION, DISCHARGE AND DEFEASANCE

Section 4.1. TERMINATION OF COMPANY'S OBLIGATIONS UNDER THE INDENTURE (a) This Indenture shall upon Company Request cease to be of further effect with respect to Securities of or within any series (except as to any surviving rights of registration of transfer or exchange of such Securities and replacement of such Securities which may have been lost, stolen or mutilated as herein expressly provided for) and the Trustee, at the expense of the Company, shall execute proper instruments acknowledging satisfaction and discharge of this Indenture with respect to such Securities when

(1) either

(A) all such Securities previously authenticated and delivered (other than (i) such Securities which have been destroyed, lost or stolen and which have been replaced or paid as provided in Section 3.6 and (ii) such Securities for whose payment money has theretofore been deposited in trust or segregated and held in trust by the Company and thereafter repaid to the Company or discharged from such trust, as provided in Section 9.3) have been delivered to the Trustee for cancellation; or

(B) all Securities of such series not theretofore delivered to the Trustee for cancellation

(i) have become due and payable, or

(ii) will become due and payable at their Stated Maturity within one year, or

(iii) if redeemable at the option of the Company, are to be called for redemption within one year under arrangements satisfactory to the Trustee for giving of notice of redemption, and the Company, in the case of (i), (ii) or (iii) above, has irrevocably deposited or caused to be deposited with the Trustee as trust funds in trust for the purpose an amount in the currency or currencies or currency unit or units in which the Securities of such series are payable, sufficient to pay and discharge the entire indebtedness on such Securities not theretofore delivered to the Trustee for cancellation, for principal, premium, if any, and interest, with respect thereto, to the date of such deposit (in the case of any such Securities which have become due and payable) or to the Stated Maturity or Redemption Date, as the case may be;

(2) the Company has paid or caused to be paid all other sums then payable hereunder by the Company; and

(3) the Company has delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent herein provided for relating to the satisfaction and discharge of this Indenture as to such series have been complied with.

Notwithstanding the satisfaction and discharge of this Indenture, the obligation of the Company to the Trustee and any predecessor Trustee under Section 6.8 and the obligations of the Company to any Authenticating Agent under Section 6.13 shall survive until the Securities of the discharged series have been paid in full, and, if money shall have been deposited with the Trustee pursuant to subclause (B) of clause (1) of this Section, the obligations of the Trustee under Section 4.2 and the last paragraph of Section 9.3 shall survive in accordance with the terms of such Sections.

Section 4.2. APPLICATION OF TRUST FUNDS. Subject to the provisions of the last paragraph of Section 9.3, all money deposited with the Trustee pursuant to Section 4.1 shall be held in trust and applied by it, in accordance with the provisions of the Securities and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as its own Paying Agent) as the Trustee may determine, to the Persons entitled thereto, of the principal, premium, if any and any interest for whose payment such money has been deposited with or received by the Trustee, but such money need not be segregated from other funds except to the extent required by law.

Section 4.3. APPLICABILITY OF DEFEASANCE PROVISIONS; COMPANY'S OPTION TO EFFECT DEFEASANCE OR COVENANT DEFEASANCE Unless pursuant to Section 3.1 provision is made to exclude with respect to the Securities of a particular series either or both of (i) defeasance of the Securities of or within such series under Section 4.4 or (ii) covenant defeasance of the Securities of or within such series under Section 4.5, then, in addition to the rights of the Company pursuant to Section 4.1 above, the provisions of such Section or Sections, as the case may be, together with the provisions of Sections 4.6 through 4.9 inclusive, with such modifications thereto as may be specified pursuant to Section 3.1 with respect to any Securities of such series, shall be applicable to such Securities and the Company may at its option, at any time, with respect to such Securities elect to have Section 4.4 (if applicable) or Section 4.5 (if applicable) be applied to such Outstanding Securities upon compliance with the conditions set forth below in this Article.

Section 4.4. DEFEASANCE AND DISCHARGE. Upon the Company's exercise of the option specified in Section 4.3 applicable to this Section with respect to the Securities of or within a series, the Company shall be deemed to have been discharged from its obligations with respect to such Securities on the date the conditions set forth in Section 4.6 are satisfied (hereinafter, a "defeasance"). For this purpose, such defeasance means that the Company shall be deemed to have paid and discharged the entire indebtedness represented by such Securities which Securities shall thereafter be deemed to be "Outstanding" only for the purposes of Section 4.7 and the other Sections of this Indenture referred to in clause (ii) of this Section, and to have satisfied all its other obligations under such Securities and this Indenture insofar as such Securities are concerned (and the Trustee, at the expense of the Company, shall on Company Order execute proper instruments acknowledging the same), except the following which shall survive until otherwise terminated or discharged hereunder: (i) the rights of Holders of such Securities to receive, solely from the trust funds described in Section 4.6(a) and as more fully set forth in such Section, payments in respect of the principal of, premium, if any, and interest, if any, on such Securities when such payments are due; (ii) the Company's obligations with respect to such Securities under Sections 3.5, 3.6, 9.2 and 9.3 and with respect to the payment of additional amounts, if any, payable with respect to such Securities as specified pursuant to Section 3.1(b) (18); (iii) the rights, powers, trusts, duties, immunities and indemnities of the Trustee hereunder and (iv) this Article IV. Subject to compliance with this Article IV, the Company may exercise its option under this Section notwithstanding the prior exercise of its option under Section 4.5 with respect to such Securities. Following a defeasance, payment of such Securities may not be accelerated because of an Event of Default.

Section 4.5. COVENANT DEFEASANCE. Upon the Company's exercise of the option specified in Section 4.3 applicable to this Section with respect to any Securities of or within a series, the Company shall be released from its obligations under Sections 7.1, 9.4 and 9.5, and, if specified pursuant to Section 3.1, its obligations under any other covenant, with respect to such Securities on and after the date the conditions set forth in Section 4.6 are satisfied (hereinafter, "covenant defeasance"), and such Securities shall thereafter be deemed to be not "Outstanding" for the purposes of any direction, waiver, consent or declaration or Act of Holders (and the consequences of any thereof) in connection with Sections 7.1, 9.4 and 9.5, or such other specified covenant, and the operation of Sections 5.1(3) and 5.1(6), but shall continue to be deemed "Outstanding" for all other purposes hereunder. For this purpose, such covenant defeasance means that, with respect to such Securities, the Company may omit to comply with and shall have no liability in respect of any term, condition or limitation set forth in any such Section or such other covenant, whether directly or indirectly, by reason of any reference elsewhere herein to any such Section or such other covenant or by reason of reference in any such Section or such other covenant to any other provision herein or in any other document and such omission to comply shall not constitute a Default or an Event of Default under Section 5.1(3) or 5.1(6) or otherwise, as the case may be, but, except as specified above, the remainder of this Indenture and such Securities shall be unaffected thereby.

Section 4.6. CONDITIONS TO DEFEASANCE OR COVENANT DEFEASANCE The following shall be the conditions to application of Section 4.4 or Section 4.5 to any Securities of or within a series:

(a) The Company shall have deposited or caused to be deposited irrevocably with the Trustee (or another trustee satisfying the requirements of Section 6.11 who shall agree to comply with, and shall be entitled to the benefits of, the provisions of Sections 4.3 through 4.9 inclusive and the last paragraph of Section 9.3 applicable to the Trustee, for purposes of such Sections also a "Trustee") as trust funds in trust for the purpose of making the payments referred to in clauses (x) and (y) of this Section 4.6(a), with instructions to the Trustee as to the application thereof, (A) money in an amount (in such currency, currencies or currency unit in which such Securities are then specified as payable at Maturity), or (B) Government Obligations which through the payment of interest and principal in respect thereof in accordance with their terms will provide, not later than one day before the due date of any payment referred to in clause (x) or (y) of this Section 4.6(a), money in an amount or (C) a combination thereof in an amount, sufficient, in the determination of a nationally recognized independent accounting or investment banking firm expressed in a written certification thereof delivered to the Trustee in the case of clauses (B) or (C), to pay and discharge, and which shall be applied by the Trustee to pay and discharge, (x) the principal of, premium, if any, and interest, if any, on such Securities on the Maturity of such principal or installment of principal or interest and (y) any mandatory sinking fund payments applicable to such Securities on the day on which such payments are due and payable in accordance with the terms of this Indenture and such Securities.

Before such a deposit, the Company may make arrangements satisfactory to the Trustee for the redemption of such Securities at a future date or dates in accordance with Article X which shall be given effect in applying the foregoing.

(b) The deposit pursuant to subsection (a) above shall not result in or constitute a Default or Event of Default under this Indenture or result in a breach or violation of, or constitute a default under, any other material agreement or instrument to which the Company is a party or by which it is bound.

(c) In the case of an election under Section 4.4, no Default or Event of Default under Section 5.1(4) or 5.1(5) with respect to such Securities shall have occurred and be continuing during the period commencing on the date of such deposit and ending on the 91st day after such date (it being understood that this condition shall not be deemed satisfied until the expiration of such period).

(d) In the case of an election under Section 4.4, the Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel to the effect that (i) the Company has received from, or there has been published by, the Internal Revenue Service a ruling, or (ii) since the date of execution of this Indenture, there has been a change in the applicable Federal income tax law, in either case to the effect that, and based thereon such opinion shall confirm that, the Holders of such Securities will not recognize income, gain or loss for Federal income tax purposes as a result of such defeasance and will be subject to Federal income tax on the same amounts and in the same manner and at the same times, as would have been the case if such deposit, defeasance and discharge had not occurred.

(e) In the case of an election under Section 4.5, the Company shall have delivered to the Trustee an Opinion of Counsel to the effect that the Holders of such Securities will not recognize income, gain or loss for Federal income tax purposes as a result of such covenant defeasance and will be subject to Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such covenant defeasance had not occurred.

(f) The Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel, each stating that all conditions precedent to the defeasance under Section 4.4 or the covenant defeasance under Section 4.5 (as the case may be) have been complied with and an Opinion of Counsel to the effect that either (i) as a result of a deposit pursuant to subsection (a) above and the related exercise of the Company's option under Section 4.4 or Section 4.5 (as the case may be), registration is not required under the Investment Company Act of 1940, as amended, by the Company, with respect to the trust funds representing such deposit or by the trustee for such trust funds or (ii) all necessary registrations under said act have been effected.

(g) Such defeasance or covenant defeasance shall be effected in compliance with any additional or substitute terms, conditions or limitations which may be imposed on the Company in connection therewith as contemplated by Section 3.1.

Section 4.7. DEPOSITED MONEY AND GOVERNMENT OBLIGATIONS TO BE HELD IN TRUST. Subject to the provisions of the last paragraph of Section 9.3, all money and Government Obligations (or other property as may be provided pursuant to Section 3.1) (including the proceeds thereof) deposited with the Trustee pursuant to Section 4.6 in respect of any Securities of any series shall be held in trust and applied by the Trustee, in accordance with the provisions of such Securities and this Indenture, to the payment, either directly or through any Paying Agent (including the Company acting as its own Paying Agent) as the Trustee may determine, to the Holders of such Securities of all sums due and to become due thereon in respect of principal, premium, if any, and interest, if any, but such money need not be segregated from other funds except to the extent required by law.

If specified with respect to a Security of any series pursuant to Section 3.1, if, after a deposit referred to in Section 4.6(a) has been made, (i) the Holder of such Security in respect of which such deposit was made is entitled to, and does, elect pursuant to Section 3.11(b) or the terms of such Security to receive payment in a currency or currency unit other than that in which the deposit pursuant to Section 4.6(a) has been made in respect of such Security, or (ii) a Conversion Event occurs as contemplated in Section 3.11(d) or 3.11(e) or by the terms of the Security in respect of which the deposit pursuant to Section 4.6(a) has been made, the indebtedness represented by such Security shall be deemed to have been, and will be, fully discharged and satisfied through the payment of the principal of, premium, if any, and interest, if any, on such Security as the same becomes due out of the proceeds yielded by converting (from time to time as specified below in the case of any such election) the amount or other property deposited in respect of such Security into the currency or currency unit in which such Security becomes payable as a result of such election or Conversion Event based on the applicable Market Exchange Rate for such currency or currency unit in effect on the second Business Day prior to each payment date, except, with respect to a Conversion Event, for such currency or currency unit in effect (as nearly as feasible) at the time of the Conversion Event.

Section 4.8. REPAYMENT TO COMPANY. The Trustee (and any Paying Agent) shall promptly pay to the Company upon Company Request any excess money or securities held by them at any time.

Section 4.9. INDEMNITY FOR GOVERNMENT OBLIGATIONS. The Company shall pay, and shall indemnify the Trustee against, any tax, fee or other charge imposed on or assessed against Government Obligations deposited pursuant to this Article or the principal and interest received on such Government Obligations, other than any such tax, fee or other charge that by law is for the account of the Holders of the Securities subject to defeasance or covenant defeasance pursuant to this Article.

ARTICLE V

DEFAULTS AND REMEDIES

Section 5.1. EVENTS OF DEFAULT. An “Event of Default” occurs with respect to the Securities of any series, except to the extent such event is specifically deleted or modified by the applicable Board Resolutions or supplemental indenture as contemplated by Section 3.1 for the Securities of such series, if (whatever the reason for such Event of Default and whether it shall be voluntary or involuntary or be effected by operation of law or pursuant to any judgment, decree or order of any court or any order, rule or regulation of any administrative or governmental body):

(1) the Company defaults in the payment of interest on any Security of that series or any additional amount payable with respect to any Security of that series as specified pursuant to Section 3.1(b)(17) when the same becomes due and payable and such default continues for a period of 30 days;

(2) the Company defaults in the payment of the principal of or any premium on any Security of that series when the same becomes due and payable at its Maturity or on redemption or otherwise, or in the payment of a mandatory sinking fund payment when and as due by the terms of the Securities of that series;

(3) the Company defaults in the performance of, or breaches, any covenant or warranty of the Company in this Indenture with respect to any Security of that series (other than a covenant or warranty a default in whose performance or whose breach is elsewhere in this Section specifically dealt with), and such default or breach continues for a period of 90 days after there has been given, by registered or certified mail, to the Company by the Trustee or to the Company and the Trustee by the Holders of at least 25% in principal amount of the Outstanding Securities of that series, a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a “Notice of Default” hereunder;

(4) the Company, pursuant to or within the meaning of any Bankruptcy Law, (A) commences a voluntary case, (B) consents to the entry of an order for relief against it in an involuntary case, (C) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (D) makes a general assignment for the benefit of its creditors;

(5) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (A) is for relief against the Company in an involuntary case, (B) appoints a Custodian of the Company or for all or substantially all of its property, or (C) orders the liquidation of the Company; and the order or decree remains unstayed and in effect for 90 days; or

(6) any other Event of Default provided as contemplated by Section 3.1 with respect to Securities of that series.

The term “Bankruptcy Law” means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors. The term “Custodian” means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

Section 5.2. ACCELERATION; RESCISSION AND ANNULMENT. If an Event of Default with respect to the Securities of any series at the time Outstanding occurs and is continuing, the Trustee or the Holders of at least 25% in aggregate principal amount of all of the Outstanding Securities of that series, by written notice to the Company (and, if given by the Holders, to the Trustee), may declare the principal (or, if the Securities of that series are Original Issue Discount Securities or Indexed Securities, such portion of the principal amount or other amount as may be specified in the terms of that series) of all the Securities of that series to be due and payable and upon any such declaration such principal (or, in the case of Original Issue Discount Securities or Indexed Securities, such specified amount) shall be immediately due and payable.

At any time after such a declaration of acceleration with respect to Securities of any series has been made and before a judgment or decree for payment of the money due has been obtained by the Trustee as hereinafter in this Article provided, the Holders of a majority in aggregate principal amount of the Outstanding Securities of that series, by written notice to the Trustee, may rescind and annul such declaration and its consequences if all existing Defaults and Events of Default with respect to Securities of that series, other than the non-payment of the principal of Securities of that series which have become due solely by such declaration of acceleration, have been cured or waived as provided in Section 5.7. Upon any such rescission, the parties hereto shall be restored respectively to their several positions and rights hereunder, and all rights, remedies and powers of the parties hereto shall continue as though no acceleration had occurred.

Section 5.3. COLLECTION OF INDEBTEDNESS AND SUITS FOR ENFORCEMENT BY TRUSTEE. The Company covenants that if:

(1) default is made in the payment of any interest on any Security of any series, when such interest becomes due and payable and such default continues for a period of 30 days, or

(2) default is made in the payment of the principal of (or premium, if any, on) any Security of any series at the Maturity thereof and such default continues for a period of 10 days,

the Company will, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Securities, the whole amount then due and payable on such Securities for principal, premium, if any, and interest and, to the extent that payment of such interest shall be legally enforceable, interest on any overdue principal, premium, if any, and on any overdue interest, at the rate or rates prescribed therefor in such Securities.

If the Company fails to pay such principal, premium, if any, and interest amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, may institute a judicial proceeding for the collection of such principal, premium, if any, and interest amounts so due and unpaid, may prosecute such proceeding to judgment or final decree and may enforce the same against the Company.

In addition, if an Event of Default with respect to Securities of any series occurs and is continuing, the Trustee may in its discretion proceed, in its own name and as trustee of an express trust, to protect and enforce its rights and the rights of the Holders of Securities of such series by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any such rights, whether for the specific enforcement of any covenant or agreement in this Indenture or in aid of the exercise of any power granted herein, or to enforce any other proper remedy.

Section 5.4. TRUSTEE MAY FILE PROOFS OF CLAIM. The Trustee may file such proofs of claim and other papers or documents as may be necessary or advisable in order to have the claims of the Trustee and the Holders of Securities of each series allowed in any judicial proceedings relating to the Company, its creditors or its property.

Section 5.5. TRUSTEE MAY ENFORCE CLAIMS WITHOUT POSSESSION OF SECURITIES. All rights of action and claims under this Indenture or the Securities of any series may be prosecuted and enforced by the Trustee, in its own name and as trustee of an express trust, without the possession of any of the Securities of such series or the production thereof in any proceeding relating thereto.

Section 5.6. DELAY OR OMISSION NOT WAIVER. No delay or omission by the Trustee or any Holder of any Securities to exercise any right or remedy accruing upon an Event of Default shall impair any such right or remedy or constitute a waiver of or acquiescence in any such Event of Default.

Section 5.7. WAIVER OF PAST DEFAULTS. The Holders of a majority in aggregate principal amount of Outstanding Securities of any series by notice to the Trustee may waive on behalf of the Holders of all Securities of such series a past Default or Event of Default with respect to that series and its consequences except a Default or Event of Default (i) in the payment of the principal of, premium, if any, or interest on any Security of such series or (ii) in respect of a covenant or provision hereof which pursuant to Section 8.2 cannot be amended or modified without the consent of the Holder of each Outstanding Security of such series adversely affected. Upon any such waiver, such Default shall cease to exist, and any Event of Default arising therefrom shall be deemed to have been cured, for every purpose of this Indenture; but no such waiver shall extend to any subsequent or other Default or Event of Default or impair any right consequent thereon. In case of any such waiver, the Company, the Trustee and the Holders shall be restored to their former positions and rights hereunder and under the Securities of such series, respectively.

Section 5.8. CONTROL BY MAJORITY. The Holders of a majority in aggregate principal amount of the Outstanding Securities of each series affected (with each such series voting as a class) shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on it with respect to Securities of that series; provided, however, that (i) the Trustee may refuse to follow any direction that conflicts with law or this Indenture, (ii) the Trustee may refuse to follow any direction that is unduly prejudicial to the rights of the Holders of Securities of such series not consenting, or that would in the good faith judgment of the Trustee have a substantial likelihood of involving the Trustee in personal liability and (iii) the Trustee may take any other action deemed proper by the Trustee which is not inconsistent with such direction.

Section 5.9. LIMITATION ON SUITS BY HOLDERS. No Holder of any Security of any series shall have any right to institute any proceeding, judicial or otherwise, with respect to this Indenture, or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless:

(1) the Holder has previously given written notice to the Trustee of a continuing Event of Default with respect to the Securities of that series;

(2) the Holders of at least 25% in aggregate principal amount of the Outstanding Securities of that series have made a written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder;

(3) such Holder or Holders have offered to the Trustee indemnity satisfactory to the Trustee against any loss, liability or expense to be, or which may be, incurred by the Trustee in pursuing the remedy;

(4) the Trustee for 60 days after its receipt of such notice, request and the offer of indemnity has failed to institute any such proceedings; and

(5) during such 60 day period, the Holders of a majority in aggregate principal amount of the Outstanding Securities of that series have not given to the Trustee a direction inconsistent with such written request.

No one or more Holders shall have any right in any manner whatever by virtue of, or by availing of, any provision of this Indenture to affect, disturb or prejudice the rights of any other of such Holders, or to obtain or to seek to obtain priority or preference over any other of such Holders or to enforce any right under this Indenture, except in the manner herein provided and for the equal and ratable benefit of all of such Holders.

Section 5.10. RIGHTS OF HOLDERS TO RECEIVE PAYMENT. Notwithstanding any other provision of this Indenture, but subject to Section 9.2, the right of any Holder of a Security to receive payment of principal of, premium, if any, and, subject to Sections 3.5 and 3.7, interest on the Security of such Holder, on or after the respective due dates expressed in the Security of such Holder (or, in case of redemption, on the redemption dates), or to bring suit for the enforcement of any such payment on or after such respective dates, shall not be impaired or affected without the consent of such Holder.

Section 5.11. APPLICATION OF MONEY COLLECTED. If the Trustee collects any money pursuant to this Article with respect to a particular series of Securities, it shall pay out the money in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such money on account of principal, premium, if any, or interest, upon presentation of the Securities of the applicable series and the notation thereon of the payment if only partially paid and upon surrender thereof if fully paid:

First: to the Trustee for amounts due under Section 6.8 in connection with such series of Securities in respect of which money or other property is collected;

Second: Subject to the terms of any subordination entered into as contemplated by Section 3.1(b) (27) hereof, to Holders of Securities of such series in respect of which or for the benefit of which such money has been collected for amounts due and unpaid on such Securities for principal of, premium, if any, and interest, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal, premium, if any, and interest, respectively; and

Third: The balance, if any, to the Company.

The Trustee may fix a record date and payment date for any payment to Holders pursuant to this Section 5.11. At least 15 days before such record date, the Trustee shall mail to each Holder and the Company a notice that states the record date, the payment date and the amount to be paid.

Unless otherwise specified in a supplemental indenture with respect to a series of Securities, in any case where Securities of a series are outstanding which are denominated in more than one currency, or in a composite currency and at least one other currency, and the Trustee is directed to make ratable payments under this Section to Holders of Securities of such series, the Trustee shall calculate the amount of such payments as follows: as of the day the Trustee collects an amount under this Article, the Trustee shall, (i) as to each Holder of a Security of such series to whom an amount is due and payable under this Section which is denominated in a foreign currency or a composite currency, determine that amount of Dollars that would be obtained for the amount owing such Holder, using the rate of exchange at which in accordance with normal banking procedures the Trustee could purchase in Dollars as of such day with such amount owing, (ii) calculate the sum of all Dollar amounts determined under (i) and add thereto any amounts due and payable in Dollars; and (iii) using the individual amounts determined in (i) or any individual amounts due and payable in Dollars, as the case may be, as a numerator and the sum calculated in (ii) as a denominator, calculate as to each Holder of a Security of such series to whom an amount is owed under this Section the fraction of the amount collected under this Article payable to such Holder. Any expenses incurred by the Trustee in actually converting amounts owing Holders of Securities of a series denominated in a currency or composite currency other than that in which any amount is collected under this Article shall be likewise (in accordance with this paragraph) be borne ratably by all Holders of Securities of such series to whom amounts are payable under this Section.

Unless otherwise specified in the supplemental indenture with respect to a series of Securities, to the fullest extent allowed under applicable law, if for the purpose of obtaining judgment against the Company in any court it is necessary to convert the sum due in respect of the principal of, or any premium or interest on the Securities of any series (the "Required Currency") into a currency in which judgment will be rendered (the "Judgment Currency"), the rate of exchange used shall be the rate at which in accordance with normal banking procedures the Trustee could purchase in The City of New York the Required Currency with the Judgment Currency on the New York Business Day preceding that on which final judgment is given. The Company shall not be liable for any shortfall in payments to Holders of Securities of a series under this Section caused by a change in exchange rates between the time the amount of a judgment against it is calculated as above and the time the Trustee converts the Judgment Currency into the Required Currency to make payments under this Section to Holders of such Securities, but payment of such judgment shall discharge all amounts owed by the Company on the claim or claims underlying such judgment.

Section 5.12. RESTORATION OF RIGHTS AND REMEDIES. If the Trustee or any Holder has instituted any proceeding to enforce any right or remedy under this Indenture and such proceeding has been discontinued or abandoned for any reason, or has been determined adversely to the Trustee or to such Holder, then and in every such case, subject to any determination in such proceeding, the Company, the Trustee and the Holders shall be restored severally and respectively to their former positions hereunder and thereafter all rights and remedies of the Trustee and the Holders shall continue as though no such proceeding had been instituted.

Section 5.13. RIGHTS AND REMEDIES CUMULATIVE. Except as otherwise provided in Section 5.9 or with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities in the last paragraph of Section 3.6, no right or remedy herein conferred upon or reserved to the Trustee or the Holders is intended to be exclusive of any other right or remedy, and every right and remedy shall, to the extent permitted by law, be cumulative and in addition to every other right and remedy given hereunder or now or hereafter existing at law or in equity or otherwise. The assertion or employment of any right or remedy hereunder, or otherwise, shall not prevent the concurrent assertion or employment of any other appropriate right or remedy.

ARTICLE VI

THE TRUSTEE

Section 6.1. DUTIES AND RESPONSIBILITIES OF TRUSTEE; RELIANCE ON DOCUMENTS, OPINIONS, ETC. (a) The Trustee, prior to the occurrence of an Event of Default and after the curing or waiver of all Events of Default that may have occurred, undertakes to perform such duties and only such duties as are specifically set forth in this Indenture. In the event an Event of Default has occurred and is continuing, the Trustee shall exercise such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in its exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs; provided that if an Event of Default occurs and is continuing, the Trustee will be under no obligation to exercise any of the rights or powers under this Indenture at the request or direction of any of the Holders unless such Holders have offered to the Trustee indemnity or security satisfactory to it in its reasonable discretion against any loss, liability or expense that might be incurred by it in compliance with such request or direction.

No provision of this Indenture shall be construed to relieve the Trustee from liability for its own negligent action, its own negligent failure to act or its own willful misconduct, except that:

(1) prior to the occurrence of an Event of Default and after the curing or waiving of all Events of Default that may have occurred:

(2) the duties and obligations of the Trustee shall be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable except for the performance of such duties and obligations as are specifically set forth in this Indenture and no implied covenants or obligations shall be read into this Indenture against the Trustee; and

(3) in the absence of bad faith and willful misconduct on the part of the Trustee, the Trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but, in the case of any such certificates or opinions that by any provisions hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirements of this Indenture (but need not confirm or investigate the accuracy of any mathematical calculations or other facts stated therein);

(4) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Officers of the Trustee, unless it shall be proved that the Trustee was grossly negligent in ascertaining the pertinent facts;

(5) the Trustee shall not be liable with respect to any action taken or omitted to be taken by it in good faith in accordance with the direction of the Holders of not less than a majority of the aggregate principal amount of the Securities at the time outstanding relating to the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred upon the Trustee, under this Indenture;

(6) whether or not therein provided, every provision of this Indenture relating to the conduct or affecting the liability of, or affording protection to, the Trustee shall be subject to the provisions of this clause (a) and clause (b) below;

(7) the Trustee shall not be liable in respect of any payment (as to the correctness of amount, entitlement to receive or any other matters relating to payment) or notice effected by the Company or any Paying Agent or any records maintained by any co- Registrar with respect to the Securities;

(8) if any party fails to deliver a notice relating to an event the fact of which, pursuant to this Indenture, requires notice to be sent to the Trustee, the Trustee may conclusively rely on its failure to receive such notice as reason to act as if no such event occurred, unless a Responsible Officer of the Trustee had actual knowledge of such event;

(9) in the absence of written investment direction from the Company, all cash received by the Trustee shall be placed in a non-interest bearing trust account, and in no event shall the Trustee be liable for the selection of investments or for investment losses incurred thereon or for losses incurred as a result of the liquidation of any such investment prior to its maturity date or the failure of the party directing such investments prior to its maturity date or the failure of the party directing such investment to provide timely written investment direction, and the Trustee shall have no obligation to invest or reinvest any amounts held hereunder in the absence of such written investment direction from the Company; and

(10) in the event that the Trustee is also acting as custodian, Registrar, Paying Agent, Conversion Agent or transfer agent hereunder, the rights and protections afforded to the Trustee pursuant to this Article VI shall also be afforded to such custodian, Registrar, Paying Agent, Conversion Agent or transfer agent.

None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal or financial liability in the performance of any of its duties or in the exercise of any of its rights or powers. The Trustee shall not be required to give any bond or surety in respect of the performance of its powers or duties hereunder. The Trustee will be under no obligation to exercise any of its rights and powers under this Indenture at the request or direction of the Holders unless such Holder has offered to the Trustee security or indemnity satisfactory to it in its reasonable discretion against any loss, liability or expense.

(b) Except as otherwise provided in the foregoing clause (a) of this Section 6.1:

(1) the Trustee may conclusively rely and shall be fully protected in acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, bond, note, coupon or other paper or document believed by it in good faith to be genuine and to have been signed or presented by the proper party or parties;

(2) any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by an Officers' Certificate (unless other evidence in respect thereof be herein specifically prescribed); and any Board Resolution may be evidenced to the Trustee by a copy thereof certified by the Corporate Secretary or an Assistant Secretary of the Company;

(3) the Trustee may consult with counsel of its own selection and require an Opinion of Counsel and any advice of such counsel or Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or omitted by it hereunder in good faith and in accordance with such advice or Opinion of Counsel;

(4) the Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture or other paper or document, but the Trustee, in its discretion, may make such further inquiry or investigation into such facts or matters as it may see fit, and, if the Trustee shall determine to make such further inquiry or investigation, it shall be entitled to examine the books, records and premises of the Company, personally or by agent or attorney at the expense of the Company and shall incur no liability of any kind by reason of such inquiry or investigation;

(5) the Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through a co-trustee, agents, custodians, nominees or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent, custodian, nominee or attorney appointed by it with due care hereunder;

(6) the permissive rights of the Trustee enumerated herein shall not be construed as duties;

(7) the Trustee shall not be liable for any action taken, suffered, or omitted to be taken by it in good faith and reasonably believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture;

(8) the Trustee shall not be responsible for monitoring the performance of other persons or for the failure of others to perform their duties;

(9) the Holders will not direct the Trustee to take action contrary to this Indenture, the Securities or applicable law, and the Trustee is not obligated to follow any instruction of the Holders that is contrary to this Indenture, the Securities or applicable law;

(10) the Trustee may request that the Company deliver an Officer's Certificate setting forth the names of individuals and/or titles of officers authorized at such time to take specified actions pursuant to this Indenture, which Officers' Certificate may be signed by any Person authorized to sign an Officers' Certificate, including any Person specified as so authorized in any such certificate previously delivered and not superseded;

(11) the Trustee shall not be required to give any bond or surety in respect of the execution of the trusts and powers under this Indenture;

(12) in no event shall the Trustee be liable for any special, punitive, indirect or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Trustee has been advised of the likelihood of such loss or damage and regardless of the form of action;

(13) the Trustee shall not be charged with knowledge of any Default or Event of Default with respect to the Securities, unless either (1) a Responsible Officer shall have actual knowledge of such Default or Event of Default or (2) written notice of such Default or Event of Default shall have been given to the Trustee by the Company or actually received by a Responsible Officer at the Corporate Trust Office of the Trustee from the Company, a Paying Agent, any Holder or any agent of any Holder, referencing this Indenture;

(14) the Trustee shall not be responsible or liable for any failure or delay in the performance of its obligations under this Indenture arising out of or caused, directly or indirectly, by circumstances beyond its reasonable control, including, without limitation, acts of God; earthquakes; fire; flood; terrorism; wars and other military disturbances; sabotage; epidemics; riots; interruptions; loss or malfunction of utilities, computer (hardware or soft-ware) or communication services; accidents; labor disputes; and acts of civil or military authorities and governmental action; and

(15) neither the Trustee nor any of its directors, officers, employees, agents or affiliates shall be responsible for nor have any duty to monitor the performance or any action of the Company, or any of their respective directors, members, officers, agents, affiliates or employee, nor shall it have any liability in connection with the malfeasance or nonfeasance by such party, nor shall the Trustee be responsible for any inaccuracy in the information obtained from the Company or for any inaccuracy or omission in the records which may result from such information or any failure by the Trustee to perform its duties as set forth herein as a result of any inaccuracy or incompleteness.

Section 6.2. TRUSTEE, PAYING AGENTS, CONVERSION AGENTS OR REGISTRAR MAY HOLD SECURITIES The Trustee, any Paying Agent, any Registrar or any other agent of the Company, in its individual or any other capacity, may become the owner or pledgee of Securities and, subject to Sections 310(b) and 311 of the Trust Indenture Act, may otherwise deal with the Company, an Affiliate or Subsidiary with the same rights it would have if it were not Trustee, Paying Agent, Registrar or such other agent.

Section 6.3. MONIES TO BE HELD IN TRUST. Subject to the provisions of Section 4.8 and the last paragraph of Section 9.3, all moneys received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, but need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for investment of or interest on any money received by it hereunder except as otherwise agreed with the Company. Except for amounts deposited pursuant to Article IV, so long as no Event of Default shall have occurred and be continuing, all interest allowed on any such moneys shall be paid from time to time to the Company upon a Company Order. The Trustee shall not be obligated to take possession of any Common Stock, whether upon conversion or in connection with any discharge of this Indenture pursuant hereto.

Section 6.4. NO RESPONSIBILITIES FOR RECITALS, ETC. The recitals contained herein and in the Securities (except in the Trustee's certificate of authentication) shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same. The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities, except that the Trustee represents and warrants that it is duly authorized to execute and deliver this Indenture, authenticate the Securities and perform its obligations hereunder and thereunder; that the statements made by it in a Statement of Eligibility and Qualification on Form T-1 supplied or to be supplied to the Company in connection with the registration of any Securities are and at the time of delivery will be true and accurate; and that such Statement complies and at the time of delivery will comply with the requirements of the Trust Indenture Act and the Securities Act, in each case, applicable to such Statement. The Trustee shall not be accountable for the use or application by the Company of any Securities or the proceeds of any Securities authenticated and delivered by the Trustee in conformity with the provisions of this Indenture.

Section 6.5. NOTICE OF DEFAULTS. If a Default occurs and is continuing with respect to the Securities of any series and if it is known to a Responsible Officer of the Trustee, the Trustee shall, within 90 days after it occurs, transmit, in the manner and to the extent provided in Section 313(c) of the Trust Indenture Act, notice of all uncured Defaults known to it; provided, however, that, except in the case of a Default in payment on the Securities of any series, the Trustee may withhold the notice if and so long as a trust committee of Responsible Officers in good faith determines that withholding such notice is in the interests of Holders of Securities of that series; provided, further, that in the case of any default or breach of the character specified in Section 5.1(3) with respect to the Securities of such series, no such notice to Holders shall be given until at least 90 days after the occurrence thereof.

Section 6.6. REPORTS BY TRUSTEE TO HOLDERS. (a) Within 60 days after each May 15 of each year commencing with the first May 15 after the first issuance of Securities of any series pursuant to this Indenture, the Trustee shall transmit by mail to all Holders of Securities of such series as provided in Section 313(c) of the Trust Indenture Act a brief report dated as of such May 15 if required by and in compliance with Section 313(a) of the Trust Indenture Act. A copy of each report shall, at the time of such transmission to Holders, be filed by the Trustee with each stock exchange, if any, upon which the Securities of any series are listed, with the Commission and with the Company. The Company will promptly notify the Trustee when the Securities of any series are listed on any stock exchange and of any delisting thereof.

(b) The Trustee shall from time to time transmit by mail to all Holders of Securities as provided in Section 313(c) of the Trust Indenture Act, such reports as are required to be filed pursuant to Section 313(b) of the Trust Indenture Act.

Section 6.7. SECURITY HOLDER LISTS. The Trustee shall preserve in as current a form as is reasonably practicable the most recent list available to it of the names and addresses of Holders of Securities of each series. If the Trustee is not the Registrar, the Company shall furnish to the Trustee semiannually on or before the last day of June and December in each year, and at such other times as the Trustee may request in writing, a list, in such form and as of such date as the Trustee may reasonably require, containing all the information in the possession or control of the Registrar, the Company or any of its Paying Agents other than the Trustee as to the names and addresses of Holders of Securities of each such series.

Section 6.8. COMPENSATION AND INDEMNITY. The Company covenants and agrees to pay to the Trustee from time to time, and the Trustee shall be entitled to, compensation as agreed in writing between the Company and the Trustee for all services rendered by it hereunder in any capacity (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust) as mutually agreed to in writing between the Trustee and the Company, and the Company will pay or reimburse the Trustee upon its request for all reasonable expenses, disbursements and advances reasonably incurred or made by the Trustee in accordance with any of the provisions of this Indenture in any capacity thereunder (including the reasonable compensation and the expenses and disbursements of its agents and counsel and of all Persons not regularly in its employ and including reasonable attorneys' fees in connection with enforcement of its rights to indemnity herein) except any such expense, disbursement or advance as shall have been caused by its gross negligence, willful misconduct or bad faith. The Company also covenants to indemnify the Trustee in any capacity under this Indenture and any other document or transaction entered into in connection herewith and its agents and any authenticating agent for, and to hold them harmless against, any loss, claim, damage, liability, fee, cost, loss, tax, claim, action or expense incurred without gross negligence, willful misconduct or bad faith on the part of the Trustee, its officers, directors, agents or employees, or such agent or authenticating agent, as the case may be, and arising out of or in connection with the acceptance or administration of this Indenture or in any other capacity hereunder, including third-party claims and claims involving the Company, and including the costs and expenses of defending themselves against any claim of liability in the premises or enforcing this indemnity. The obligations of the Company under this Section 6.8 to compensate or indemnify the Trustee and to pay or reimburse the Trustee for expenses, disbursements and advances shall be secured by a senior claim to which the Securities of the applicable series are hereby made subordinate on all money or property held or collected by the Trustee, except, subject to the effect of Section 5.11, funds held in trust herewith for the benefit of the Holders of particular Securities. The Trustee's right to receive payment of any amounts due under this Section 6.8 shall not be subordinate to any other liability or indebtedness of the Company. The obligation of the Company under this Section 6.8 shall survive the satisfaction and discharge of this Indenture and the earlier resignation or removal of the Trustee. The Company need not pay for any settlement made without its consent, which consent shall not be unreasonably withheld. The indemnification provided in this Section 6.8 shall extend to the officers, directors, agents and employees of the Trustee.

Without prejudice to any other rights available to the Trustee under applicable law, when the Trustee and its agents and any Authenticating Agent incur expenses or render services after an Event of Default specified in Section 5.1(4) or Section 5.1(5) occurs, the expenses and the compensation for the services are intended to constitute expenses of administration under any bankruptcy, insolvency or similar laws.

Section 6.9. SEPARATE TRUSTEE; REPLACEMENT OF TRUSTEE. (a) The Company may, but need not, appoint a separate Trustee for any one or more series of Securities. The resignation or removal of the Trustee and the appointment of a successor Trustee shall become effective only upon the successor Trustee's acceptance of appointment as provided in Section 6.10. In the event of an appointment of a separate Trustee for any one or more series of Securities, the allocation of responsibilities between the separate Trustees shall be determined at that time.

(b) The Trustee may resign at any time with respect to the Securities of any one or more series by giving written notice thereof to the Company. If the instrument of acceptance by a successor Trustee required by Section 6.10 shall not have been delivered to the Trustee within 30 days after the giving of such notice of resignation, the resigning Trustee may (at the Company's expense) petition any court of competent jurisdiction for the appointment of a successor Trustee with respect to the Securities of such series.

(c) The Holders of a majority in aggregate principal amount of the Outstanding Securities of any series may remove the Trustee with respect to any one or more series by so notifying the Trustee and the Company in writing and may appoint a successor Trustee for such series with the Company's consent.

If an instrument of acceptance by a successor Trustee required by Section 6.10 shall not have been delivered to the Trustee within 30 days after the giving of such notice of removal, the Trustee being removed may petition any court of competent jurisdiction for the appointment of a successor Trustee with respect to the Securities of such series.

(d) If at any time:

(1) the Trustee fails to comply with Section 310(b) of the Trust Indenture Act after written request therefor by the Company or by any Holder who has been a bona fide Holder of a Security for at least six months, or

(2) the Trustee shall cease to be eligible under Section 6.11 hereof or Section 310(a) of the Trust Indenture Act and shall fail to resign after written request therefor by the Company or by any Holder of a Security who has been a bona fide Holder of a Security for at least six months; or

(3) the Trustee becomes incapable of acting, is adjudged a bankrupt or an insolvent or a receiver or public officer takes charge of the Trustee or its property or affairs for the purpose of rehabilitation, conservation or liquidation, then, in any such case, (i) the Company may remove the Trustee with respect to all Securities, or (ii) subject to Section 315(e) of the Trust Indenture Act, any Holder who has been a bona fide Holder of a Security for at least six months may, on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee with respect to Securities of the series held by such Holder and the appointment of a successor Trustee or Trustees.

(c) If the Trustee resigns or is removed or becomes incapable of acting or if a vacancy exists in the office of Trustee for any reason, with respect to Securities of one or more series, the Company shall promptly appoint a successor Trustee with respect to the Securities of that or those series (it being understood that any such successor Trustee may be appointed with respect to the Securities of one or more or all of such series and that at any time there shall be only one Trustee with respect to the Securities of any particular series) and shall comply with the applicable requirements of Section 6.10. If, within one year after such resignation, removal or incapability, or the occurrence of such vacancy, a successor Trustee with respect to the Securities of any series shall be appointed by Act of the Holders of a majority in principal amount of the Outstanding Securities of such series delivered to the Company and the retiring Trustee, the successor Trustee so appointed shall, forthwith upon its acceptance of such appointment in accordance with the applicable requirements of Section 6.10, become the successor Trustee with respect to the Securities of such series and to that extent supersede the successor Trustee appointed by the Company. If no successor Trustee with respect to the Securities of any series shall have been so appointed by the Company or the Holders and accepted appointment in the manner required by Section 6.10, then, subject to Section 315(e) of the Trust Indenture Act, any Holder who has been a bona fide Holder of a Security of such series for at least six months may, on behalf of himself and all others similarly situated, petition any court of competent jurisdiction for the appointment of a successor Trustee with respect to the Securities of such series.

Section 6.10. ACCEPTANCE OF APPOINTMENT BY SUCCESSOR. (a) In case of the appointment hereunder of a successor Trustee with respect to Securities of any series, every such successor Trustee shall execute, acknowledge and deliver to the Company and to the retiring Trustee an instrument accepting such appointment. Thereupon, the resignation or removal of the retiring Trustee shall become effective, and the successor Trustee, without further act, deed or conveyance, shall become vested with all the rights, powers and duties of the retiring Trustee; but, on the request of the Company or the successor Trustee, such retiring Trustee shall, upon payment of its charges, execute and deliver an instrument transferring to such successor Trustee all the rights, powers and trusts of the retiring Trustee and shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder.

(b) In case of the appointment hereunder of a successor Trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and such successor Trustee shall execute and deliver an indenture supplemental hereto wherein such successor Trustee shall accept such appointment and which (i) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, such successor Trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates, (ii) if the retiring Trustee is not retiring with respect to all Securities, shall contain such provisions as shall be deemed necessary or desirable to confirm that all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series as to which the retiring Trustee is not retiring shall continue to be vested in the retiring Trustee, and (iii) shall add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, it being understood that nothing herein or in such supplemental indenture shall constitute such Trustees co-trustees of the same trust and that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee and upon the execution and delivery of such supplemental indenture the resignation or removal of the retiring Trustee shall become effective to the extent provided therein and each such successor Trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor Trustee relates; but, on request of the Company or any successor Trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor Trustee all property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor Trustee relates.

(c) No successor Trustee shall accept its appointment unless at the time of such acceptance such successor Trustee shall be qualified and eligible under the Trust Indenture Act.

(d) The Company shall give, or cause to be given, notice of each resignation and each removal of the Trustee with respect to the Securities of any series and each appointment of a successor Trustee with respect to the Securities of any series in the manner provided for notices to the Holders of Securities in Section 1.6. Each notice shall include the name of the successor Trustee with respect to the Securities of such series and the address of its Corporate Trust Office.

Section 6.11. **ELIGIBILITY; DISQUALIFICATION.** There shall at all times be a Trustee hereunder with respect to each series of Securities (which need not be the same Trustee for all series). Each Trustee hereunder shall be eligible to act as trustee under Section 310(a)(1) of the Trust Indenture Act and shall have a combined capital and surplus of at least \$100,000,000. If such corporation publishes reports of condition at least annually, pursuant to law or the requirements of federal, state, territorial or District of Columbia supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. If at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, it shall resign immediately in the manner and with the effect hereinafter specified in this Article.

If the Trustee has or shall acquire a conflicting interest within the meaning of the Trust Indenture Act, the Trustee shall either eliminate such interest or resign, to the extent and in the manner provided by, and subject to the provisions of, the Trust Indenture Act and this Indenture.

Section 6.12. **MERGER, CONVERSION, CONSOLIDATION OR SUCCESSION TO BUSINESS** Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to or acquiring all or substantially all of the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided such corporation shall be otherwise qualified and eligible under this Article, without the execution or filing of any paper or any further act on the part of any of the parties hereto. In case any Securities shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to, or by succession to or acquisition of all or substantially all of the corporate trust business of, such authenticating Trustee may adopt such authentication and deliver the Securities so authenticated with the same effect as if such successor Trustee had itself authenticated such Securities.

Section 6.13. APPOINTMENT OF AUTHENTICATING AGENT. The Trustee may appoint an Authenticating Agent or Agents with respect to one or more series of Securities which shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon original issue exchange, registration of transfer or partial redemption thereof, and Securities so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. Any such appointment shall be evidenced by an instrument in writing signed by a Responsible Officer of the Trustee, a copy of which instrument shall be promptly furnished to the Company. Wherever reference is made in this Indenture to the authentication and delivery of Securities by the Trustee or the Trustee's certificate of authentication, such reference shall be deemed to include authentication and delivery on behalf of the Trustee by an Authenticating Agent and a certificate of authentication executed on behalf of the Trustee by an Authenticating Agent. Each Authenticating Agent shall be acceptable to the Company and, except as may otherwise be provided pursuant to Section 3.1, shall at all times be a bank or trust company or corporation organized and doing business and in good standing under the laws of the United States of America or of any State or the District of Columbia, authorized under such laws to act as Authenticating Agent, having a combined capital and surplus of not less than \$1,500,000 and subject to supervision or examination by Federal or State authorities. If such Authenticating Agent publishes reports of condition at least annually, pursuant to law or the requirements of the aforesaid supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such Authenticating Agent shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. In case at any time an Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, such Authenticating Agent shall resign immediately in the manner and with the effect specified in this Section.

Any corporation into which an Authenticating Agent may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which such Authenticating Agent shall be a party, or any corporation succeeding to or acquiring the corporate agency or corporate trust business of an Authenticating Agent, shall continue to be an Authenticating Agent, provided such corporation shall be otherwise eligible under this Section, without the execution or filing of any paper or further act on the part of the Trustee or the Authenticating Agent.

An Authenticating Agent for any series of Securities may at any time resign by giving written notice of resignation to the Trustee for such series and to the Company. The Trustee for any series of Securities may at any time terminate the agency of an Authenticating Agent by giving written notice of termination to such Authenticating Agent and to the Company. Upon receiving such a notice of resignation or upon such a termination, or in case at any time such Authenticating Agent shall cease to be eligible in accordance with the provisions of this Section, the Trustee for such series may appoint a successor Authenticating Agent which shall be acceptable to the Company and shall give notice of such appointment to all Holders of Securities of the series with respect to which such Authenticating Agent will serve in the manner set forth in Section 1.6. Any successor Authenticating Agent upon acceptance of its appointment hereunder shall become vested with all the rights, powers and duties of its predecessor hereunder, with like effect as if originally named as an Authenticating Agent herein. No successor Authenticating Agent shall be appointed unless eligible under the provisions of this Section.

The Company agrees to pay to each Authenticating Agent from time to time such reasonable compensation as the Company and such Authenticating Agent agree in writing from time to time including reimbursement of its reasonable expenses for its services under this Section.

If an appointment with respect to one or more series is made pursuant to this Section, the Securities of such series may have endorsed thereon, in addition to or in lieu of the Trustee's certificate of authentication, an alternate certificate of authentication substantially in the following form:

This is one of the [Securities] [of the series designated herein and] referred to in the within-mentioned Indenture.

[_____] , as Trustee

By

_____ **as Authenticating Agent**

By

_____ **Authorized Signatory**

ARTICLE VII

CONSOLIDATION, MERGER OR SALE BY THE COMPANY

Section 7.1. CONSOLIDATION, MERGER OR SALE OF ASSETS. The Company may not merge or consolidate with or into any other Person, in a transaction in which it is not the surviving corporation, or sell, convey, transfer or otherwise dispose of all or substantially all of its assets to any Person, unless (i) surviving or transferee Person is organized and existing under the laws of the United States or a State thereof and such Person expressly assumes by supplemental indenture all the obligations of the Company under each series of Securities and under this Indenture, (ii) immediately thereafter, giving effect to such merger or consolidation, or such sale, conveyance, transfer or other disposition, no Default or Event of Default shall have occurred and be continuing and (iii) the Company shall have delivered to the Trustee an Officer's Certificate and an Opinion of Counsel each stating that such merger, consolidation, sale, conveyance, transfer or other disposition complies with this Article and that all conditions precedent herein provided for relating to such transaction have been complied with. In the event of the assumption by a successor Person of the obligations of the Company, such successor Person shall succeed to and be substituted for the Company hereunder and under each series of Securities and all such obligations of the Company shall terminate.

ARTICLE VIII

SUPPLEMENTAL INDENTURES

Section 8.1. SUPPLEMENTAL INDENTURES WITHOUT CONSENT OF HOLDERS. Without the consent of any Holders, the Company and the Trustee, at any time and from time to time, may enter into indentures supplemental hereto for any of the following purposes:

- (1) to evidence the succession of another Person to the Company and the assumption by any such successor of the covenants and obligations of the Company herein and in Securities (with such changes herein and therein as may be necessary or advisable to reflect such Person's legal status, if such Person is not a corporation); or
- (2) to add to the covenants of the Company for the benefit of the Holders of all or any series of Securities (and if such covenants are to be for the benefit of less than all series of Securities, stating that such covenants are expressly being included solely for the benefit of such series) or to surrender any right or power herein conferred upon the Company or to comply with any requirement of the Commission or otherwise in connection with the qualification of this Indenture under the Trust Indenture Act or otherwise; or
- (3) to add any additional Events of Default with respect to all or any series of Securities; or
- (4) to add to or change any of the provisions of this Indenture to such extent as shall be necessary to facilitate or provide for the issuance of Securities in global form in addition to or in place of Securities in certificated form; or
- (5) to change or eliminate any of the provisions of this Indenture, provided that any such change or elimination shall become effective only with respect to Securities which have not been issued as of the execution of such supplemental indenture or when there is no Security Outstanding of any series created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision; or
- (6) to add guarantees with respect to all or any series of Securities; or
- (7) to convey, transfer, assign, mortgage or pledge any property to or with the Trustee; or
- (8) to supplement any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Securities pursuant to Sections 4.1, 4.4, and 4.5; provided that any such action shall not adversely affect the interests of the Holders of Securities of such series or any other series of Securities in any material respect; or
- (9) to establish the form or terms of Securities of any series as permitted by Sections 2.1 and 3.1; or
- (10) to provide for the delivery of indentures supplemental hereto or the Securities of any series in or by means of any computerized, electronic or other medium, including without limitation by computer diskette; or
- (11) to evidence and provide for the acceptance of appointment hereunder by a successor or separate Trustee with respect to the Securities of one or more series and/or to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, pursuant to the requirements of Article VI; or

(12) to correct or supplement any provision herein which may be inconsistent with any other provision herein or to cure any ambiguity or omission or to correct any mistake; or

(13) to make any other provisions with respect to matters or questions arising under this Indenture, provided such action shall not adversely affect the interests of the Holders of Securities of any series in any material respect.

Section 8.2. WITH CONSENT OF HOLDERS. Without prior notice to any Holder but with the written consent of the Holders of a majority of the aggregate principal amount of the Outstanding Securities of each series adversely affected by such supplemental indenture (with the Securities of each series voting as a class), the Company and the Trustee may enter into an indenture or indentures supplemental hereto to add any provisions to or to change or eliminate any provisions of this Indenture or of any other indenture supplemental hereto or to modify the rights of the Holders of Securities of each such series; provided, however, that without the consent of the Holder of each Outstanding Security of such series adversely affected thereby, a supplemental indenture under this Section may not:

(1) change the Stated Maturity of the principal of, or any installment of principal of or interest on, any Security of such series, or reduce the principal amount thereof or the rate of interest thereon or any premium payable upon the redemption thereof, or reduce the amount of the principal of an Original Issue Discount Security or Indexed Security that would be due and payable upon a declaration of acceleration of the Maturity thereof pursuant to Section 5.2, or change any Place of Payment where, or the coin or currency in which any Securities of such series or any premium or the interest thereon is payable, or impair the right to institute suit for the enforcement of any such payment on or after the Stated Maturity thereof (or, in the case of redemption, on or after the Redemption Date);

(2) reduce the percentage in principal amount of the Outstanding Securities of any series, the consent of whose Holders is required for any such supplemental indenture, or the consent of whose Holders is required for any waiver of compliance with certain provisions of this Indenture or certain defaults hereunder and their consequences provided for in this Indenture;

(3) except to the extent provided in Section 8.1(11), make any change in Section 5.7 or this 8.2 except to increase any percentage or to provide that certain other provisions of this Indenture cannot be modified or waived except with the consent of the Holders of each Outstanding Security of such series affected thereby, provided, however, that this clause shall not be deemed to require the consent of any Holders with respect to changes in the references to the "Trustee" and concomitant changes in this Section, in accordance with the requirements of Sections 6.10(b) and 8.1(11); or

(4) modify the ranking or priority of the Securities of such series.

For the purposes of this Section 8.2, if the Securities of any series are issuable upon the exercise of warrants, any holder of an unexercised and unexpired warrant with respect to such series shall not be deemed to be a Holder of Outstanding Securities of such series in the amount issuable upon the exercise of such warrants.

A supplemental indenture which changes or eliminates any covenant or other provision of this Indenture which has expressly been included solely for the benefit of one or more particular series of Securities, or which modifies the rights of the Holders of Securities of such series with respect to such covenant or other provision, shall be deemed not to affect the rights under this Indenture of the Holders of Securities of any other series.

It is not necessary under this Section 8.2 for the Holders to consent to the particular form of any proposed supplemental indenture, but it is sufficient if they consent to the substance thereof.

Section 8.3. COMPLIANCE WITH TRUST INDENTURE ACT. Every amendment to this Indenture or the Securities of one or more series shall be set forth in a supplemental indenture that complies with the Trust Indenture Act as then in effect.

Section 8.4. EXECUTION OF SUPPLEMENTAL INDENTURES. In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modification thereby of the trusts created by this Indenture, the Trustee shall be entitled to receive, and shall be fully protected in relying upon an Officer's Certificate and Opinion of Counsel stating that all conditions precedent to the execution of such supplemental indenture have been satisfied and an Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture and that such supplemental indenture is the legal, valid and binding obligation of the Company. The Trustee may, but shall not be obligated to, enter into any such supplemental indenture which adversely affects the Trustee. The Trustee shall enter into any such supplemental indenture presented to it by the Company in compliance with this Article VIII if such supplemental indenture does not adversely affect the Trustee, as determined in its sole discretion. In formulating its opinion on such matters the Trustee shall be entitled to rely on such evidence as it deems appropriate, which may be or include, without limitation, reliance solely on an opinion or advice of its counsel.

Section 8.5. EFFECT OF SUPPLEMENTAL INDENTURES. Upon the execution of any supplemental indenture under this Article, this Indenture shall be modified in accordance therewith, and such supplemental indenture shall form a part of this Indenture for all purposes; and every Holder of Securities of the applicable series theretofore or thereafter authenticated and delivered hereunder and shall be bound thereby; provided that if such supplemental indenture makes any of the changes described in clauses (1) through (4) of the first proviso to Section 8.2, such supplemental indenture shall bind each Holder of a Security of the applicable series who has consented to it and every subsequent Holder of such Security or any part thereof.

Section 8.6. REFERENCE IN SECURITIES TO SUPPLEMENTAL INDENTURES. Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to this Article may, and shall if required by the Trustee, bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Company shall so determine, new Securities of any series so modified as to conform, in the opinion of the Trustee and the Company, to any such supplemental indenture may be prepared and executed by the Company and authenticated and delivered by the Trustee in exchange for Outstanding Securities of such series.

ARTICLE IX

COVENANTS

Section 9.1. PAYMENT OF PRINCIPAL, PREMIUM, IF ANY, AND INTEREST. The Company covenants and agrees for the benefit of the Holders of each series of Securities that it will duly and punctually pay the principal of, premium, if any, and interest on the Securities of that series in accordance with the terms of the Securities of such series, and this Indenture. An installment of principal, premium, if any, or interest shall be considered paid on the date it is due if the Trustee or Paying Agent holds on that date money designated for and sufficient to pay the installment.

Section 9.2. MAINTENANCE OF OFFICE OR AGENCY. If Securities of a series are issued as Registered Securities, the Company will maintain in each Place of Payment for any series of Securities an office or agency where Securities of that series may be presented or surrendered for payment, where Securities of that series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of any such office or agency. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations, surrenders, notices and demands (provided, however, that the foregoing appointment shall not impose or imply any obligation on the part of the Trustee to maintain any office for any such purposes other than the Corporate Trust Office.)

Subject to the preceding paragraphs, the Company may also from time to time designate one or more other offices or agencies where the Securities of one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in each Place of Payment for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

Unless otherwise specified as contemplated by Section 3.1, the Trustee shall initially serve as Paying Agent. The Paying Agent may make reasonable rules not inconsistent herewith for the performance of its functions.

Section 9.3. MONEY FOR SECURITIES TO BE HELD IN TRUST; UNCLAIMED MONEY. If the Company shall at any time act as its own Paying Agent with respect to any series of Securities, it will, on or before each due date of the principal of, premium, if any, or interest on any of the Securities of that series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay the principal, premium, if any, or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee in writing of any failure so to act.

Whenever the Company shall have one or more Paying Agents for any series of Securities, it will, on or prior to each due date of the principal of or any premium or interest on any Securities of that series, deposit with a Paying Agent a sum sufficient to pay such amount, such sum to be held as provided by the Trust Indenture Act, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of any failure so to act.

If the Company is not acting as its own Paying Agent, the Company will cause each Paying Agent for any series of Securities other than the Trustee to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

- (1) hold all sums held by it for the payment of the principal of, premium, if any, or interest on Securities of that series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;
- (2) give the Trustee notice of any Default by the Company (or any other obligor upon the Securities of that series) in the making of any payment of principal, premium, if any, or interest on the Securities of that series; and
- (3) at any time during the continuance of any such Default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

Notwithstanding anything in this Section 9.3 to the contrary, the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture, or with respect to one or more series of Securities, or for any other purpose, pay, or by Company Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Company or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Company or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such money.

Subject to applicable abandoned property laws, any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of any principal, premium or interest or other amounts on any Security of any series and remaining unclaimed for two years after such principal, premium, if any, or interest or other amounts has become due and payable shall be paid to the Company (including interest income on such funds, if any), or (if then held by the Company) shall be discharged from such trust; and the Holder of such Security, shall thereafter, as an unsecured general creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease.

Section 9.4. CORPORATE EXISTENCE. Subject to Article VII, the Company will at all times do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence.

Section 9.5. REPORTS BY THE COMPANY. The Company covenants, at any time at which there are Outstanding Securities of any series issued under this Indenture:

(a) to file with the Trustee, within 30 days after the Company is required to file the same with the Commission, copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) which the Company may be required to file with the Commission pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934, as amended; or, if the Company is not required to file information, documents or reports pursuant to either of such sections, then to file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports which may be required pursuant to section 13 of the Securities Exchange Act of 1934, as amended, in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations;

(b) to file with the Trustee and the Commission, in accordance with the rules and regulations prescribed from time to time by the Commission, such additional information, documents and reports with respect to compliance by the Company with the conditions and covenants provided for in this Indenture, as may be required from time to time by such rules and regulations; and

(c) to transmit to all Holders of Securities within 30 days after the filing thereof with the Trustee, in the manner and to the extent provided in section 313(c) of the Trust Indenture Act, such summaries of any information, documents and reports required to be filed by the Company pursuant to subsections (a) and (b) of this Section 9.5, as may be required by rules and regulations prescribed from time to time by the Commission.

Section 9.6. ANNUAL REVIEW CERTIFICATE. At any time at which there are Outstanding Securities of any series issued under this Indenture, the Company covenants and agrees to deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, a brief certificate from the principal executive officer, principal financial officer, or principal accounting officer as to his or her knowledge of whether the Company is in Default under this Indenture. For purposes of this Section 9.6, such compliance shall be determined without regard to any period of grace or requirement of notice provided under this Indenture.

ARTICLE X

REDEMPTION

Section 10.1. APPLICABILITY OF ARTICLE. Securities of or within any series which are redeemable in whole or in part before their Stated Maturity shall be redeemable in accordance with their terms and (except as otherwise specified in the applicable Board Resolution or supplemental indenture with respect to such series of Securities, as contemplated by Section 3.1 for Securities of any series) in accordance with this Article.

Section 10.2. ELECTION TO REDEEM; NOTICE TO TRUSTEE The election of the Company to redeem any Securities shall be evidenced by a Board Resolution. In the case of any redemption at the election of the Company of less than all the Securities of any series of the same tenor, the Company shall, at least 60 days (45 days in the case of redemption of all Securities of any series or of any series with the same (i) Stated Maturity, (ii) period or periods within which, price or prices at which and terms and conditions upon which such Securities may or shall be redeemed or purchased, in whole or in part, at the option of the Company or pursuant to any sinking fund or analogous provision or repayable at the option of the Holder and (iii) rate or rates at which such Securities bear interest, if any, or formula pursuant to which such rate or rates accrue (collectively, the "Equivalent Principal Terms")) prior to the Redemption Date fixed by the Company (unless a shorter notice shall be satisfactory to the Trustee), notify the Trustee of such Redemption Date of the principal amount of Securities of such series to be redeemed and, if applicable, of the tenor of such Securities to be redeemed. In the case of any redemption of Securities of a series (i) prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture or (ii) pursuant to an election of the Company which is subject to a condition specified in the terms of such Securities, the Company shall furnish the Trustee with an Officer's Certificate evidencing compliance with such restriction or condition.

Section 10.3. SELECTION OF SECURITIES TO BE REDEEMED. If less than all the Securities with Equivalent Principal Terms of any series are to be redeemed (unless all of the Securities of such series and of a specified tenor are to be redeemed), the particular Securities to be redeemed shall be selected not more than 60 days prior to the Redemption Date by the Trustee, from the Outstanding Securities of such series not previously called for redemption, by such method as the Trustee shall deem fair and appropriate and which may provide for the selection for redemption of portions (equal to the minimum authorized denomination for Securities of that series with Equivalent Principal Terms or any integral multiple thereof) of the principal amount of Securities of such series with Equivalent Principal Terms of a denomination larger than the minimum authorized denomination for Securities of that series. Unless otherwise provided in the terms of a particular series of Securities, the portions of the principal of Securities so selected for partial redemption shall be equal to the minimum authorized denomination of the Securities of such series, or an integral multiple thereof, and the principal amount which remains outstanding shall not be less than the minimum authorized denomination for Securities of such series.

The Trustee shall promptly notify the Company in writing of the Securities selected for redemption and, in the case of any Securities selected for partial redemption, the principal amount thereof to be redeemed. If the Securities of a series having different issue dates, interest rates and maturities (whether or not originally issued in a Periodic Offering) are to be redeemed, the Company in its discretion may select the particular Securities or portions thereof to be redeemed and shall notify the Trustee thereof by such time prior to the relevant redemption date or dates as the Company and the Trustee may agree.

For purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities shall relate, in the case of any Securities redeemed or to be redeemed only in part, to the portion of the principal amount of such Securities which has been or is to be redeemed.

Section 10.4. NOTICE OF REDEMPTION. Unless otherwise specified as contemplated by Section 3.1, notice of redemption shall be given by first-class mail, postage prepaid, mailed not less than 30 days nor more than 60 days prior to the Redemption Date, unless a shorter period is specified in the Securities to be redeemed, to each Holder of the Securities to be redeemed.

All notices of redemption shall state:

(1) the Redemption Date;

(2) the Redemption Price and the amount of accrued interest, if any, to be paid;

(3) if less than all the Outstanding Securities of a series are to be redeemed, the identification (and, in the case of partial redemption of any Securities, the principal amounts) of the particular Security or Securities to be redeemed;

(4) in case any Security is to be redeemed in part only, the notice which relates to such Security shall state that on and after the Redemption Date, upon surrender of such Security, the Holder of such Security will receive, without a charge, a new Security or Securities of authorized denominations for the principal amount thereof remaining unredeemed;

(5) the Place or Places of Payment where such Securities are to be surrendered for payment for the Redemption Price;

(6) that Securities of the series called for redemption appertaining thereto must be surrendered to the Paying Agent to collect the Redemption Price;

(7) that, on the Redemption Date, the Redemption Price will become due and payable upon each such Security, or the portion thereof, to be redeemed and, if applicable, that interest thereon will cease to accrue on and after said date;

(8) that the redemption is for a sinking fund, if such is the case;

(9) the CUSIP number and/or ISIN, if any, of such Securities.

Notice of redemption of Securities to be redeemed at the election of the Company shall be given by the Company or, at the Company's request, by the Trustee in the name and at the expense of the Company (provided that the Company prepare and provide to the Trustee the form of such notice, or, if acceptable to the Trustee, provides sufficient information to enable the Trustee to prepare such notice, in each case on a timely basis.)

Section 10.5. DEPOSIT OF REDEMPTION PRICE. On or prior to any Redemption Date, the Company shall deposit with the Trustee or with a Paying Agent (or, if the Company is acting as its own Paying Agent, segregate and hold in trust as provided in Section 9.3) an amount of money in the currency or currencies (including currency units or composite currencies) in which the Securities of such series are payable (except as otherwise specified pursuant to Section 3.1 for the Securities of such series) sufficient to pay on the Redemption Date the Redemption Price of, and (unless the Redemption Date shall be an Interest Payment Date) interest accrued to the Redemption Date on, all Securities or portions thereof which are to be redeemed on that date.

Unless any Security by its terms prohibits any sinking fund payment obligation from being satisfied by delivering and crediting Securities (including Securities redeemed otherwise than through a sinking fund), the Company may deliver such Securities to the Trustee for crediting against such payment obligation in accordance with the terms of such Securities and this Indenture.

Section 10.6. **SECURITIES PAYABLE ON REDEMPTION DATE.** Notice of redemption having been given as aforesaid, the Securities so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the Company shall default in the payment of the Redemption Price and accrued interest) such Securities shall cease to bear interest and such Securities shall cease from and after the Redemption Date to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the Redemption Price thereof and unpaid interest to the Redemption Date. Except as provided in the next succeeding paragraph, upon surrender of any such Security for redemption in accordance with said notice, such Security shall be paid by the Company at the Redemption Price, together with accrued interest, if any, to the Redemption Date; provided, however, that, unless otherwise specified as contemplated by Section 3.1, installments of interest on Registered Securities whose Stated Maturity is on or prior to the Redemption Date shall be payable to the Holders of such Securities, or one or more Predecessor Securities, registered as such at the close of business on the relevant Record Dates according to their terms and the provisions of Section 3.7.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal (and premium, if any) shall, until paid, bear interest from the Redemption Date at the rate prescribed therefor in such Security.

Section 10.7. **SECURITIES REDEEMED IN PART.** Upon surrender of a Security that is redeemed only in part at any Place of Payment therefor (with, if the Company or the Trustee so require, due endorsement by, or a written instrument of transfer in form satisfactory to the Company and the Trustee duly executed by, the Holder thereof or his attorney duly authorized in writing), the Company shall execute and the Trustee shall authenticate and deliver to the Holder of that Security, without service charge, a new Security or Securities of the same series, having the same form, terms and Stated Maturity, in any authorized denomination equal in aggregate principal amount to the unredeemed portion of the principal amount of the Security surrendered.

ARTICLE XI

SINKING FUNDS

Section 11.1. **APPLICABILITY OF ARTICLE.** The provisions of this Article shall be applicable to any sinking fund for the retirement of Securities of a series except as otherwise specified as contemplated by Section 3.1 for Securities of such series.

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a "mandatory sinking fund payment," and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an "optional sinking fund payment." If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 11.2. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

Section 11.2. SATISFACTION OF SINKING FUND PAYMENTS WITH SECURITIES. The Company (i) may deliver Outstanding Securities of a series (other than any previously called for redemption) and (ii) may apply as a credit Securities of a series which have been redeemed either at the election of the Company pursuant to the terms of such Securities or through the application of permitted optional sinking fund payments pursuant to the terms of such Securities, in each case in satisfaction of all or any part of any sinking fund payment with respect to the Securities of such series required to be made pursuant to the terms of such Securities as provided for by the terms of such series; provided that such Securities have not been previously so credited. Such Securities shall be received and credited for such purpose by the Trustee at the Redemption Price specified in such Securities for redemption through operation of the sinking fund and the amount of such sinking fund payment shall be reduced accordingly.

Section 11.3. REDEMPTION OF SECURITIES FOR SINKING FUND. Not less than 60 days prior to each sinking fund payment date for any series of Securities, the Company will deliver to the Trustee an Officer's Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of that series, the portion thereof, if any, which is to be satisfied by payment of cash and the portion thereof, if any, which is to be satisfied by delivering and crediting Securities of that series pursuant to Section 11.2 and will also deliver to the Trustee any Securities to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 10.3 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 10.4. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Sections 10.6 and 10.7.

This Indenture may be executed in any number of counterparts, each of which shall be an original, but such counterparts shall together constitute but one instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed as of the day and year first above written.

AKOUSTIS TECHNOLOGIES, INC.

By: _____
Name: _____
Title: _____

[_____] , as Trustee

By: _____
Name: _____
Title: _____

[Signature page to Indenture]

The logo for K&L GATES, featuring the text "K&L GATES" in a white, sans-serif font on a dark grey rectangular background.

May 8, 2020

Akoustis Technologies, Inc.
9805 Northcross Center Court, Suite A
Huntersville, NC 28078

Ladies and Gentlemen:

We have acted as special counsel to Akoustis Technologies, Inc., a Delaware corporation (the "Company"), and Akoustis, Inc., a Delaware corporation (the "Guarantor"), in connection with the Registration Statement on Form S-3 (the "Registration Statement") filed on the date hereof by the Company with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"). The Registration Statement relates to, among other things, the issuance and sale from time to time pursuant to Rule 415 promulgated under the Securities Act of the following securities:

- (i) common stock, par value \$0.001 per share ("Common Stock"), of the Company (the "Shelf Registration Common Stock");
- (ii) preferred stock, par value \$0.001 per share, of the Company (the "Preferred Stock");
- (iii) debt securities of the Company (the "Debt Securities");
- (iv) guarantees of the Debt Securities (the "Guarantees") by the Guarantor;
- (v) warrants to purchase Common Stock, Preferred Stock or Debt Securities (the "Warrants");
- (vi) units composed of any combination of Common Stock, Preferred Stock, Debt Securities or Warrants (the "Units"); and
- (vii) rights to purchase Common Stock, Preferred Stock, Debt Securities or any other securities (the "Rights").

The Shelf Registration Common Stock (including the Offering Common Stock, as defined below), Preferred Stock, Debt Securities, Guarantees, Warrants, Units and Rights are collectively referred to herein as the "Securities." The maximum public offering price of the Securities being registered is \$150,000,000.

We also have acted as special counsel to the Company in connection with the issuance and sale by the Company from time to time (the "Offering") of Common Stock having an aggregate offering price of up to \$50,000,000 (the "Offering Common Stock") pursuant to that certain ATM Equity OfferingSM Sale Agreement dated May 8, 2020 (the "Sales Agreement") among the Company and the sales agents named therein (the "Sales Agents").

This opinion letter is being delivered in accordance with the requirements of Paragraph 29 of Schedule A of the Securities Act and Item 601(b)(5)(i) of Regulation S-K.

In connection with rendering the opinions set forth below, we have examined (i) the Registration Statement, including the exhibits filed therewith; (ii) the base prospectus included in the Registration Statement relating to the Securities (the "Base Prospectus"); (iii) the prospectus supplement included in the Registration Statement relating to the Offering (the "Prospectus Supplement"); (iv) the Certificate of Incorporation of the Company, as amended through the date hereof (the "Certificate of Incorporation"); (v) the Amended and Restated Bylaws of the Company (the "Bylaws" and, together with the Certificate of Incorporation, the "Company Organizational Documents"); (vi) the Certificate of Incorporation of the Guarantor, as amended through the date hereof, (vii) the Bylaws of the Guarantor, (viii) resolutions adopted by the Board of Directors of the Company (the "Company Board of Directors") on January 31, 2020 relating to the Registration Statement; (ix) resolutions adopted by the Board of Directors of the Guarantor (the "Guarantor Board of Directors") on May 6, 2020 relating to the Registration Statement; (x) resolutions adopted by the Company Board of Directors on May 1, 2020 and by the Financing and Pricing Committee of the Company Board of Directors (the "Pricing Committee") on May 8, 2020 relating to the Offering and the Sales Agreement (collectively, the "Offering Resolutions") (xi) the Company's stock ledger, (xii) the form of the Indenture filed as Exhibit 4.6 to the Registration Statement, and (xiii) the Sales Agreement. We have also examined and relied upon certificates of public officials and have considered such matters of law as we have deemed necessary to render the opinions contained herein. With respect to certain facts, we have considered it appropriate to rely upon certificates or other comparable documents of public officials and officers or other appropriate representatives of the Company without investigation or analysis of any underlying data contained therein.

For the purposes of this opinion letter, we have assumed that: (i) each document submitted to us is accurate and complete; (ii) each such document that is an original is authentic; (iii) each such document that is a copy conforms to an authentic original; and (iv) all signatures (other than signatures on behalf of the Company or the Guarantor) on each such document are genuine. We have further assumed the legal capacity of natural persons, and we have assumed that (i) each party to the documents we have examined or relied on (the "Reviewed Documents") is duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; (ii) each party to the Reviewed Documents: (a) has the legal capacity, power and authority to execute, deliver, and perform its obligations under the Reviewed Documents to which it is a party, (b) has taken all action necessary to duly authorize the execution and delivery of, and the performance of its obligations under, the Reviewed Documents and (c) has duly executed and delivered the Reviewed Documents; and (iii) the Reviewed Documents constitute the legal, valid, and binding obligation of each party thereto, enforceable against each such party in accordance with its terms. We also have assumed that the Guarantees are necessary or convenient to the conduct, promotion or attainment of the business of the Guarantor. In addition, with respect to the opinion given in numbered paragraph 2 below, we have assumed that (i) prior to the issuance of any of shares of Offering Common Stock, the Sales Agents' and the Company's representatives will exercise authority delegated to such persons or bodies, as applicable, in accordance with the Offering Resolutions or the Additional Resolutions (as defined below), as applicable, (ii) either the Pricing Committee or a subcommittee of its members (the "Subcommittee") shall have duly adopted resolutions pursuant to the General Corporation Law of the State of Delaware (the "DGCL") and the Company Organizational Documents (in either such case, the "Additional Resolutions") setting the maximum number of shares of Offering Common Stock that may be issued pursuant to the Sales Agreement, a time period during which such shares of Offering Common Stock may be issued and a minimum amount of consideration for which such shares may be issued in accordance with the DGCL, the Offering Resolutions and the Company Organizational Documents, and (iii) the number of shares of Offering Common Stock issued pursuant to the Sales Agreement will not exceed the number of shares of Offering Common Stock authorized to be issued by the Offering Resolutions or the Additional Resolutions, as the case may be. We have not verified any of the foregoing assumptions.

Our opinions set forth below are limited to: (i) the federal laws of the United States; (ii) solely in connection with the opinions given in numbered paragraphs 1, 2, 3 and 9(a) below, the DGCL; and (iii) solely in connection with the opinions given in numbered paragraphs 4, 5, 6, 7, 8 and 9(b) below, the law of the State of New York. We are not opining on, and we assume no responsibility for, the applicability to or effect on any of the matters covered herein of (i) any other laws; (ii) the laws of any other jurisdiction; or (iii) the law of any county, municipality or other political subdivision or local governmental agency or authority.

Based on and subject to the foregoing, and assuming that (i) the Registration Statement and any required post-effective amendment thereto will be effective and will comply with all applicable laws at the time the relevant Securities are offered or issued as contemplated by the Registration Statement or any such post-effective amendment; (ii) a prospectus supplement will have been prepared and filed with the Commission describing the Securities offered thereby and will comply with all applicable laws; (iii) all Securities will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the applicable prospectus supplement; (iv) neither the Company Board of Directors and/or any duly authorized committee thereof nor the Guarantor Board of Directors and/or any duly authorized committee thereof shall have rescinded or otherwise modified its authorization of any such issuance of Securities or the establishment of the terms of any series of such Securities or any related matters; (v) each of the Company and the Guarantor shall remain at all times a corporation duly incorporated, validly existing and in good standing under the laws of the State of Delaware; and (vi) the additional qualifications and other matters set forth below, it is our opinion that:

1. When (i) the terms of an issuance and sale of Common Stock have been duly authorized and approved by all necessary action of (A) the Company Board of Directors and/or a duly authorized committee thereof and (B) the Company's stockholders, so as not to violate any applicable law, rule or regulation, including, without limitation, the DGCL or result in a default under or a breach of any agreement or instrument binding upon the Company, including, without limitation, the Certificate of Incorporation, as it may be amended from time to time, hereafter and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; (ii) certificates representing the shares of the Common Stock have been duly executed, issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with any agreement or instrument binding upon the Company and the DGCL, and (iii) notation of the issuance of the shares of Common Stock has been properly made in the Company's stock ledger, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement which is enforceable against all parties thereto in accordance with its terms and in an amount at least equal to the aggregate par value of the shares of Common Stock being issued and duly authorized by the Company Board of Directors and/or a duly authorized committee thereof, the Common Stock will be validly issued, fully paid and nonassessable.

2. When notation of the shares of Offering Common Stock has been properly made in the Company's stock ledger, upon payment of the consideration fixed therefor in accordance with the Sales Agreement, the Offering Common Stock will be validly issued, fully paid and nonassessable.

3. Assuming the terms of the Preferred Stock have been duly established so as not to violate any applicable law, rule or regulation, including, without limitation, the DGCL, or result in a default under or breach of any agreement or instrument binding upon the Company, including, without limitation, the Certificate of Incorporation, as it may be amended from time to time, hereafter and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, when (i) the powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock have been duly established in conformity with the Certificate of Incorporation, as it may be amended from time to time hereafter, and such powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock and the issuance and sale thereof have been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof; (ii) an amendment to, or restatement of, the Company's Certificate of Incorporation, as then in effect, fixing and determining the powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock has been duly authorized by the Company Board of Directors and stockholders, if applicable, and filed with the Secretary of State of the State of Delaware and become effective; (iii) certificates representing the shares of the Preferred Stock have been duly executed, issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with any agreement or instrument binding upon the Company and the DGCL, and (iv) notation of the issuance of the shares of Preferred Stock has been properly made in the Company's stock ledger, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement which is enforceable against the parties thereto in accordance with its terms and in an amount at least equal to the aggregate par value of the shares of Preferred Stock being issued and approved by the Company Board of Directors and/or a duly authorized committee thereof, the Preferred Stock will be validly issued, fully paid and nonassessable.

4. Assuming the terms of the Debt Securities have been duly established in accordance with the indenture pursuant to which the Debt Securities are to be issued, which is substantially in the form of the Indenture filed as Exhibit 4.11 to the Registration Statement (together with any applicable supplement thereto, the "Indenture"), and so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, when (i) the terms and the execution and delivery of the Indenture and the Debt Securities, and the issuance and sale of the Debt Securities, have been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof; (ii) the Indenture has been duly executed and delivered by the Company and the trustee to be named in the prospectus supplement relating to the offering of the Debt Securities (the "Debt Trustee") and constitutes the legally valid and binding obligation of the Debt Trustee; (iii) the Debt Trustee is eligible under the Trust Indenture Act of 1939, as amended, to act in such capacity under the Indenture and has been duly appointed and a Statement of Eligibility of Trustee on Form T-1 has been filed in compliance with the Securities Act and the rules and regulations promulgated thereunder; and (iv) the Debt Securities have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the Indenture and any other agreement or instrument binding upon the Company and enforceable against the parties thereto, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement duly authorized by the Board of Directors and enforceable against the parties thereto in accordance with its terms, the Debt Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

5. Assuming the form and terms of the Guarantees have been duly established in accordance with the Indenture and so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company or the Guarantor and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company or the Guarantor, and assuming that the Guarantees are governed by the laws of New York, when (i) the form and terms and the execution and delivery of the Guarantees, and the issuance thereof, have been duly authorized and approved by all necessary action of the Guarantor Board of Directors and/or a duly authorized committee thereof; (ii) the Guarantees have been duly executed, issued and delivered by the Guarantor as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the Guarantees and any other agreement or instrument binding upon the Company or the Guarantor; and (iii) the Debt Securities underlying the Guarantees have been duly executed, authenticated, issued and delivered as contemplated in numbered paragraph 4 above, the Guarantees will constitute valid and binding obligations of the Guarantor, enforceable against the Guarantor in accordance with their terms (subject to (1) the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity, and (2) laws restricting the transfer of property or the incurring of indebtedness by corporations to or for the benefit of their stockholders).

6. Assuming the form and terms of the Warrants have been duly established in accordance with the applicable warrant agreement pursuant to which the Warrants are to be issued (the "Warrant Agreement") so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and assuming that the Warrants and the Warrant Agreement are governed by the laws of New York, when (i) the form and terms and the execution and delivery of the Warrant Agreement relating to any Warrants and the terms of the Warrants, and of their issuance and sale, have been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof; (ii) the Warrant Agreement relating to the Warrants has been duly executed and delivered by the Company and is enforceable against the parties thereto in accordance with its terms; and (iii) the Warrants or certificates representing the Warrants, as the case may be, have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the applicable Warrant Agreement and any other agreement or instrument binding upon the Company and enforceable against the parties thereto in accordance with its terms, upon payment of the consideration fixed therefor in accordance with the applicable Warrant Agreement and the applicable definitive purchase, underwriting or similar agreement duly authorized by the Company Board of Directors and/or a duly authorized committee thereof and enforceable against the parties thereto in accordance with its terms, the Warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

7. Assuming that (A) the combination of the Securities of which the Units consist has been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof and of the stockholders, if applicable, and (B) the terms of such Units have been duly established in accordance with the applicable agreement pursuant to which such Units are to be issued (the "Unit Agreement") so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and assuming that the Units and the Units Agreement are governed by the laws of New York, when (i) the form, terms and the execution and delivery of the Unit Agreement relating to any Units and the terms of the Units, and of their issuance and sale, have been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof; (ii) the Unit Agreement relating to the Units has been duly executed and delivered by the Company and is enforceable against the parties thereto in accordance with its terms; and (iii) the Units or certificates representing the Units, as the case may be, have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the applicable Unit Agreement and any other agreement or instrument binding upon the Company and enforceable against the parties thereto in accordance with its terms, upon payment of the consideration fixed therefor in accordance with the applicable Unit Agreement and the applicable purchase, underwriting or similar agreement duly authorized by the Company Board of Directors, or a duly authorized committee thereof, and enforceable against the parties thereto in accordance with its terms, the Units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

8. Assuming the form and terms of the Rights have been duly established in accordance with the applicable rights agreement pursuant to which the Rights are to be issued (the "Rights Agreement") so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and assuming that the Rights and the Rights Agreement are governed by the laws of New York, when (i) the form, terms and the execution and delivery of the Rights Agreement relating to any Rights and the terms of the Rights, and of their issuance and sale, have been duly authorized and approved by all necessary action of the Company Board of Directors and/or a duly authorized committee thereof and of the stockholders, if applicable; (ii) the Rights Agreement relating to the Rights has been duly executed and delivered by the Company and is enforceable against the parties thereto in accordance with its terms; and (iii) the Rights or certificates representing the Rights, as the case may be, have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the applicable Rights Agreement and any other agreement or instrument binding upon the Company and enforceable against the parties thereto in accordance with its terms, upon payment of the consideration fixed therefor in accordance with the applicable Rights Agreement and the applicable definitive purchase, underwriting or similar agreement duly authorized by the Company Board of Directors and/or a duly authorized committee thereof, and enforceable against the parties thereto in accordance with its terms, the Rights will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

9. If any Securities are issuable (the "Issuable Securities") upon settlement, exercise, conversion or exchange of any other Securities (the "Initial Securities") pursuant to the terms thereof, when (i) the terms of the issuance of the Issuable Securities have been duly authorized, approved and documented as provided in numbered paragraphs 1 and 3 through 7 above, as the case may be and assuming that the Issuable Securities (other than the Common Stock and Preferred Stock) are governed by the laws of New York; and (ii) the Issuable Securities have been issued upon settlement, exercise, conversion or exchange, as the case may be, of Initial Securities as contemplated by the Registration Statement and any prospectus supplement relating thereto, in accordance with the terms of the applicable Initial Securities, the Issuable Securities and any agreement or instrument binding upon the Company, and so as not to violate any applicable law, rule or regulation or result in a default under or a violation of any agreement or instrument binding upon the Company, and so as to comply with any applicable requirement or restriction imposed by any court or governmental authority having jurisdiction over the Company, upon such issuance, (a) to the extent the relevant Issuable Securities are Common Stock or Preferred Stock, such Issuable Securities will be validly issued, fully paid and nonassessable and (b) to the extent the relevant Issuable Securities are Debt Securities, Warrants, Units or Rights, such Issuable Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

Regarding the Guarantees in particular, we note that guarantees are subject to particularly close scrutiny and strict construction. Further, any effective waiver of suretyship defenses by the Guarantor with respect to the Guarantees may be enforceable as to defenses which the Company could raise under the Indenture, but may not be enforceable as to defenses which could be raised by the Guarantor with respect to the Guarantees alone.

We note that the maximum number of shares of Common Stock and Preferred Stock issuable under the Registration Statement or in the Offering is not specified, and we assume that, at the time of the issuance of any share of Common Stock or Preferred Stock under the Registration Statement or of any share of Offering Common Stock in the Offering or upon the settlement, exercise, conversion or exchange of any other Securities, the Company will have sufficient authorized and unissued, not otherwise committed to be issued, shares of Common Stock or Preferred Stock, as the case may be, to provide for such issuance.

We hereby consent to the filing of this opinion letter with the Commission as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the heading "Legal Matters" in each of the Base Prospectus and the Prospectus Supplement forming a part thereof. In giving this consent, we do not thereby admit that we are experts with respect to any part of the Registration Statement, the Base Prospectus or the Prospectus Supplement within the meaning of the term "expert" as used in Section 11 of the Securities Act or the rules and regulations promulgated thereunder by the Commission, nor do we admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

Yours truly,

/s/ K&L Gates LLP

K&L Gates LLP

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Akoustis Technologies, Inc. on Form S-3 of our report dated September 13, 2019, with respect to our audits of the consolidated financial statements of Akoustis Technologies, Inc. and Subsidiary as of June 30, 2019 and 2018, and for the two years in the period ended June 30, 2019 and our report dated September 13, 2019 with respect to our audit of the effectiveness of internal control over financial reporting of Akoustis Technologies, Inc. as of June 30, 2019. Our report on the effectiveness of internal control over financial reporting expressed an adverse opinion because of the existence of material weaknesses, which report appears in the Annual Report on Form 10-K of Akoustis Technologies, Inc. for the year ended June 30, 2019. We also consent to the reference to our firm under the heading "Experts" in such Prospectus.

/s/ Marcum llp

Marcum llp
New York, NY
May 8, 2020