

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549
FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

PIERIS PHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Nevada
(State of Incorporation)

EIN 30-0784346
(IRS Employer
Identification No.)

255 State Street, 9th Floor
Boston, MA 02109
United States
1-857-246-8998

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

Stephen S. Yoder
255 State Street, 9th Floor
Boston, MA 02109
United States

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

With copies to:

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Boston, Massachusetts 02111
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**Approximate date of commencement of proposed sale to the public:
From time to time after the effective date of this registration statement as determined by the registrant.**

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, other than securities offered only in connection with dividend or interest reinvestment plans, 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, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one).

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

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 Securities Act.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum Offering Price per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee (1)
Common Stock, \$0.001 par value	(2)	(3)	(3)	—
Preferred Stock, \$0.001 par value	(2)	(3)	(3)	—
Debt Securities	(2)	(3)	(3)	—
Warrants	(2)	(3)	(3)	—
Rights	(2)	(3)	(3)	—
Purchase Contracts	(2)	(3)	(3)	—
Units	(2)	(3)	(3)	—
Total	(2)	(3)	\$150,600,000(4)	\$18,749.70(4)

- (1) Calculated pursuant to Rule 457(o) under the Securities Act of 1933, as amended, based on the proposed maximum aggregate offering price.
- (2) There are being registered hereunder such indeterminate number of shares of common stock and preferred stock, such indeterminate principal amount of debt securities, such indeterminate number of warrants, rights and purchase contracts to purchase common stock, preferred stock or debt securities, and such indeterminate number of units, as shall have an aggregate initial offering price not to exceed \$200,000,000. If any debt securities are issued at an original issue discount, then the offering price of such debt securities shall be in such greater principal amount as shall result in an aggregate initial offering price not to exceed \$200,000,000, less the aggregate dollar amount of all securities previously issued hereunder. Any securities registered hereunder may be sold separately or as units with other securities registered hereunder. The proposed maximum initial offering price per unit will be determined, from time to time, by the registrant in connection with the issuance by the registrant of the securities registered hereunder. The securities registered also include such indeterminate number of shares of common stock and preferred stock and amount of debt securities as may be issued upon conversion of or exchange for preferred stock or debt securities that provide for conversion or exchange, upon exercise of warrants or rights or performance of purchase contracts or pursuant to the anti-dilution provisions of any such securities. In addition, pursuant to Rule 416 under the Securities Act of 1933, as amended, the shares being registered hereunder include such indeterminate number of shares of common stock and preferred stock as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (3) The proposed maximum aggregate offering price per class of security will be determined from time to time by the registrant in connection with the issuance by the registrant of the securities registered hereunder and is not specified as to each class of security pursuant to General Instruction II.D. of Form S-3 under the Securities Act of 1933, as amended.
- (4) Pursuant to Rule 415(a)(6) under the Securities Act of 1933, as amended, this registration statement includes a total of \$49,400,000 of unsold securities that had previously been registered under the Registrant's registration statement on Form S-3 initially filed on June 3, 2016, File No. 333-211844 (the "Prior Registration Statement"). The Prior Registration Statement registered securities for a maximum offering price of \$100,000,000. The Registrant sold an aggregate of \$50,600,000 of securities thereunder, leaving a balance of unsold securities with an aggregate offering price of \$49,400,000. In connection with the registration of such unsold securities on the Prior Registration Statement, the Registrant paid a registration fee of \$4,974.58 for such unsold securities, which fee will continue to be applied to such unsold securities. Accordingly, the amount of the registration fee has been calculated based on the proposed maximum offering price of the additional \$150,600,000 of securities registered on this registration statement. 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 date of effectiveness of this registration statement.

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.

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 AUGUST 9, 2018

PROSPECTUS

PIERIS PHARMACEUTICALS, INC.

**\$200,000,000
COMMON STOCK
PREFERRED STOCK
DEBT SECURITIES
WARRANTS
RIGHTS
PURCHASE CONTRACTS
UNITS**

This prospectus will allow us to issue, from time to time at prices and on terms to be determined at or prior to the time of the offering, up to \$200,000,000 of any combination of the securities described in this prospectus, either individually or in units. We may also offer common stock or preferred stock upon conversion of or exchange for debt securities; common stock upon conversion of or exchange for the preferred stock; common stock, preferred stock or debt securities upon the exercise of warrants, rights or performance of purchase contracts; or any combination of these securities upon the performance of purchase contracts.

We may offer and sell these securities on a delayed or continuous basis to or through one or more underwriters, dealers or agents, or directly to investors, in amounts, at prices and on terms to be determined by market conditions and other factors at the time of the offering. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus and in the applicable prospectus supplement. If any underwriters or agents are involved in the sale of our securities with respect to which this prospectus is being delivered, the names of such underwriters or agents and any applicable fees, commissions or discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement. You should read this prospectus and any prospectus supplement, as well as any documents incorporated by reference into this prospectus or any prospectus supplement, carefully before you invest.

This prospectus describes only the general terms of these securities and the general manner in which we will offer the securities. The specific terms of any securities we offer will, if not included in this prospectus or information incorporated by reference herein, be included in a supplement to this prospectus. The prospectus supplement may describe the specific manner in which we will offer the securities and may also add, update or change information contained in this prospectus.

Our common stock is listed on the Nasdaq Capital Market under the symbol "PIRS". On August 8, 2018, the last reported sale price for our common stock was \$5.30 per share. We will provide information in the related prospectus supplement for the trading market, if any, for any other securities that may be offered. Prospective purchasers of our securities are urged to obtain current information as to the market prices of our securities, where applicable.

Investing in our securities involves a high degree of risk. Before making any investment in any of our securities, you should read and carefully consider the risks described in this prospectus under "Risk Factors" beginning on page [6] of this prospectus.

This prospectus may not be used to sell our securities unless accompanied by a prospectus supplement.

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

This prospectus is dated August 9, 2018

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About This Prospectus

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized anyone to provide you with different information. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate only as of the date on the front of the document and that any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, any applicable prospectus supplement or any related free writing prospectus, or any sale of a security registered under the registration statement of which this prospectus is a part.

This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. The prospectus supplement may also add, update or change information contained or incorporated by reference in this prospectus. However, no prospectus supplement will offer a security that is not registered and described in this prospectus at the time of its effectiveness. This prospectus, together with the applicable prospectus supplements and the documents incorporated by reference into this prospectus, includes all material information relating to the offering of securities under this prospectus. You should carefully read this prospectus, the applicable prospectus supplement, the information and documents incorporated herein by reference and the additional information under the heading “Where You Can Find More Information” before making an investment decision.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

This prospectus may not be used to consummate sales of our securities, unless it is accompanied by a prospectus supplement. To the extent there are inconsistencies between any prospectus supplement, this prospectus and any documents incorporated by reference, the document with the most recent date will control.

As used in this prospectus, unless the context indicates or otherwise requires, “our Company”, “the Company”, “Pieris”, “we”, “us”, and “our” refer to Pieris Pharmaceuticals, Inc., a Nevada corporation, and its consolidated subsidiary, Pieris Pharmaceuticals GmbH (formerly known as Pieris AG), a company organized under the laws of Germany, Pieris Australia Pty Ltd., a company organized under the laws of Australia that is a consolidated subsidiary of Pieris Pharmaceuticals GmbH, and Pieris Securities Corporation, a Massachusetts securities corporation, a consolidated subsidiary of Pieris Pharmaceuticals, Inc.

We have registered trademarks for Pieris® and Anticalin®. All other trademarks, trade names and service marks included in this prospectus are the property of their respective owners. Use or display by us of other parties’ trademarks, trade dress or products is not intended to and does not imply a relationship with, or endorsements or sponsorship of, us by the trademark or trade dress owner.

PROSPECTUS SUMMARY

The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC or included in any applicable prospectus supplement. Investing in our securities involves risks. Therefore, carefully consider the risk factors set forth in any prospectus supplements and in our most recent annual and quarterly filings with the SEC, as well as other information in this prospectus and any prospectus supplements and the documents incorporated by reference herein or therein, before purchasing our securities. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.

Overview

We are a clinical-stage biotechnology company that discovers and develops Anticalin-based drugs to target validated disease pathways in unique and transformative ways. Our clinical pipeline includes an immuno-oncology bispecific targeting HER2 and 4-1BB, an inhaled IL-4 receptor alpha targeting Anticalin protein to treat asthma, and a half-life-optimized hepcidin targeting Anticalin protein to treat anemia. Our proprietary Anticalin proteins are a novel class of therapeutics validated in the clinic and by partnerships with leading pharmaceutical companies.

Anticalin proteins are low molecular-weight therapeutic proteins derived from lipocalins, naturally occurring proteins typically found in blood plasma and other bodily fluids. Anticalin proteins function similarly to monoclonal antibodies, or mAbs, by binding tightly and specifically to a diverse range of targets. An antibody is a large protein used by the immune system that recognizes a unique part of a foreign target molecule, called an antigen. We believe Anticalin proteins possess numerous advantages over antibodies in certain applications. For example, Anticalin proteins are small in size and are monomeric, meaning single polypeptide units rather than a multi-polypeptide complex. Therefore, we believe Anticalin proteins are generally more stable biophysically than tetrameric monoclonal antibodies, which are composed of four polypeptide subunits. The greater biophysical stability of Anticalin proteins potentially enables unique routes of drug administration, such as pulmonary delivery. Higher-molecular-weight entities, such as antibodies, are often too large to be delivered effectively through these methods. In addition, Anticalin proteins are monovalent in structure, which means they bind to a single cell surface receptor, which may avoid the risk of cross-linking of cell surface receptors where such receptors are a therapeutic target. While our basic Anticalin proteins have only a single binding site and are not subject to such cross-linking, the Anticalin technology is also modular, which allows us to design Anticalin protein constructs to bind with specificity to multiple targets at the same time. This multispecificity offers advantages in biological settings where binding to multiple targets can enhance the ability of a drug to achieve its desired effects, such as killing cancer cells. Moreover, unlike antibodies, the pharmacokinetic, or PK, profile of Anticalin proteins can be adjusted to potentially enable program-specific optimal drug exposure. Moreover, no immunogenicity has been observed to date with Anticalin proteins. Such differentiating characteristics suggest that Anticalin proteins have the potential, in certain cases, to become first-in-class drugs. We believe that the drug-like properties of the Anticalin drug class were demonstrated in various clinical trials with different Anticalin-based drug candidates, including PRS-080 and others.

We have collaboration arrangements with major multi-national pharmaceutical companies headquartered in the United States, Europe, and Japan. We have established a License and Collaboration Agreement with Les Laboratoires Servier and Institut de Recherches Internationales Servier, or Servier, in January 2017 in immuno-oncology and entered into an Exclusive Option Agreement with Aska in February 2017 for PRS-080 in Japan and other Asian territories. In May 2017, we entered into an alliance with AstraZeneca to treat respiratory diseases and in February 2018 we entered into a License and Collaboration Agreement with Seattle Genetics, Inc., or Seattle Genetics, in immuno-oncology. We also have discovery and preclinical collaboration and service agreements with both academic institutions and private firms across the globe, though Pieris Pharmaceuticals, Inc. or its wholly-owned affiliates, Pieris Pharmaceuticals GmbH and Pieris Australia Pty Ltd.

Additional Information

For more information regarding our business, see the disclosure under the headings “Management’s Discussion and Analysis of Financial Condition and Results of Operations” and “Business” included elsewhere in this prospectus. For a description of certain risks related to our business, see the disclosure under the heading “Risk Factors” beginning on page 6 of this prospectus.

Corporate History

Pieris Pharmaceuticals, Inc. was incorporated under the laws of the State of Nevada on May 24, 2013 with the name “Marika Inc.” and we changed our name to Pieris Pharmaceuticals, Inc. on December 16, 2014. Pieris Pharmaceuticals, Inc. began operating the business of Pieris Pharmaceuticals GmbH, or Pieris GmbH, through a reverse acquisition on December 17, 2014. Pieris GmbH (formerly Pieris AG, a German company which was founded in 2001) continues as an operating subsidiary of the Company. Pieris Pharmaceuticals, Inc. is the sole stockholder of Pieris GmbH with its corporate headquarters located at 255 State Street, 9th Floor, Boston, Massachusetts 02109. The research facilities of Pieris GmbH are located in Freising, Germany. Pieris Australia Pty Ltd., a wholly owned subsidiary of Pieris GmbH, was formed on February 14, 2014 to conduct research and development in Australia. Pieris Pharmaceuticals Securities Corporation, a wholly owned subsidiary of Pieris Pharmaceuticals, Inc. was formed on December 14, 2016 to buy, sell, deal in, or hold securities on its own behalf and not as a broker, and will engage in its activities exclusively for investment purposes.

Implications of Being an Emerging Growth Company

As a company with less than \$1.0 billion in revenue during our last fiscal year, we qualify as an “emerging growth company” as defined in the Jumpstart Our Business Startups Act, or JOBS Act, enacted in April 2012. An emerging growth company may take advantage of reduced reporting requirements that are otherwise applicable to public companies. These provisions include, but are not limited to:

- being required to provide only two years of audited financial statements in addition to any required unaudited interim financial statements, with correspondingly reduced disclosure in the “Management’s Discussion and Analysis of Financial Condition and Results of Operations” section of our periodic reports and registration statements;
- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, or Sarbanes-Oxley Act;
- reduced disclosure obligations regarding executive compensation in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We expect we will no longer qualify as an emerging growth company on December 31, 2019 as this is the the last day of the fiscal year following the fifth anniversary of the date of the first sale of our common stock pursuant to an effective registration statement under the Securities Act.

We may choose to take advantage of some but not all of these reduced burdens. We have taken advantage of certain of the reduced disclosure obligations, which include providing only two years of audited financial statements and correspondingly reduced financial disclosures and reduced executive compensation disclosure in our periodic reports, proxy statements and registration statements, and may elect to take advantage of other reduced burdens in future filings. As a result, the information that we provide to our stockholders may be different than you might receive from other public reporting companies in which you hold equity interests.

Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards until such time as those standards apply to private companies. We have irrevocably elected to avail ourselves of this extended transition period for complying with new or revised accounting standards.

Offerings Under This Prospectus

Under this prospectus, we may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants, rights or purchase contracts to purchase any of such securities, either individually or in units, with a total value of up to \$200,000,000, from time to time at prices and on terms to be determined by market conditions at the time of the offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion or sinking fund terms, if any;
- voting or other rights, if any; and
- conversion or exercise prices, if any.

The prospectus supplement also may add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we offer securities through agents or underwriters, we will include in the applicable prospectus supplement:

- the names of those agents or underwriters;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

This prospectus may not be used to consummate a sale of any securities unless it is accompanied by a prospectus supplement.

RISK FACTORS

Investing in our securities involves significant risk. The prospectus supplement applicable to each offering of our securities may contain a discussion of the risks applicable to an investment in Pieris. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K on file with the SEC, all of which are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. The occurrence of any of these risks might cause you to lose all or part of your investment in the offered securities.

RATIO OF EARNINGS TO FIXED CHARGES

Any time debt securities are offered pursuant to this prospectus, we will provide a table setting forth our ratio of earnings to fixed charges on a historical basis in the applicable prospectus supplement, if required.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus include forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, that relate to future events or to our future operating or financial performance. Any forward-looking statement involves known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to differ materially from any future results, levels of activity, performance or achievements expressed or implied by such forward-looking statement. Forward-looking statements include statements, other than statements of historical fact, about, among other things:

- the accuracy of our estimates regarding expenses, future revenues, uses of cash, capital requirements and the need for additional financing;
- the initiation, cost, timing, progress and results of our clinical trials, preclinical studies and development activities;
- the timing of and our ability to obtain and maintain regulatory approval of our existing product candidates, any product candidates that we may develop, and any related restrictions, limitations, and/or warnings in the label of any approved product candidates;
- our plans to research, develop and commercialize our current and future product candidates;
- our collaborators' election to pursue research, development and commercialization activities;
- our ability to obtain future reimbursement and/or milestone payments from our collaborators;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- our ability to obtain and maintain intellectual property protection for our product candidates;
- the size and growth of the markets for our product candidates and our ability to serve those markets;
- the rate and degree of market acceptance of any future products;
- the success of competing drugs that are or become available;
- regulatory developments in the United States and other countries;
- the performance of our third-party suppliers and manufacturers and our ability to obtain alternative sources of raw materials;
- our ability to obtain additional financing;
- our use of the proceeds from our securities offerings;
- any restrictions on our ability to use our net operating loss carryforwards;
and
- our ability to attract and retain key personnel.

Words such as, but not limited to, "believe," "expect," "anticipate," "estimate," "forecast," "intend," "may," "plan," "potential," "predict," "project," "targets," "likely," "will," "would," "could," "should," "continue," "scheduled" and similar expressions or phrases, or the negative of those expressions or phrases, are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on our projections of the future that are subject to known and unknown risks and uncertainties and other important factors that may cause our actual results, level of activity, performance or achievements expressed or implied by any forward-looking statement to differ. These risks, uncertainties and other factors are described in

greater detail under the caption “Risk Factors” in this prospectus, as updated and supplemented by the discussion of risks and uncertainties under “Risk Factors” contained in any supplements to this prospectus and in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K, as well as any amendments thereto, as filed with the SEC and which are incorporated herein by reference. Also, these forward-looking statements represent our estimates and assumptions only as of the date of the document containing the applicable statement. As a result of the risks and uncertainties, the results or events indicated by the forward-looking statements may not occur. We caution you not to place undue reliance on any forward-looking statement.

You should read this prospectus and the documents we have filed with the SEC that are incorporated by reference completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of the forward-looking statements in the foregoing documents by these cautionary statements. Unless required by law, we undertake no obligation to update or revise any forward-looking statements to reflect new information or future events or developments. Thus, you should not assume that our silence over time means that actual events are bearing out as expressed or implied in such forward-looking statements.

USE OF PROCEEDS

Unless otherwise indicated in the applicable prospectus supplement, we intend to use any net proceeds from the sale of securities under this prospectus for our operations and advancing the development of Pieris’ programs and product candidates, including the advancement of clinical development of PRS-343, accelerating and expanding our pre-clinical pipeline in our key therapeutic areas of immuno-oncology and respiratory diseases, expanding our discovery operations and other general corporate purposes, including, but not limited to, working capital, intellectual property protection and enforcement, capital expenditures, repayment of any existing indebtedness, investments, acquisitions and collaborations. We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus for any purpose. Pending application of the net proceeds as described above, we may initially invest the net proceeds in short-term, investment-grade, interest-bearing securities or apply them to the reduction of short-term indebtedness.

PLAN OF DISTRIBUTION

The securities covered by this prospectus may be sold from time to time, at market prices prevailing at the time of sale, at prices related to market prices, at a fixed price or prices subject to change or at negotiated prices, by a variety of methods including the following:

- in the over-the-counter market;
- in privately negotiated transactions;
- through broker-dealers, who may act as agents or principals;
- through one or more underwriters on a firm commitment or best-efforts basis;
- in a block trade in which a broker-dealer will attempt to sell a block of securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- directly to one or more purchasers;
- through agents;
- in “at the market offerings” to or through a market maker or into an existing trading market, or a securities exchange or otherwise; or
- in any combination of the above.

In effecting sales, brokers or dealers engaged by the selling stockholders may arrange for other brokers or dealers to participate. Broker-dealer transactions may include:

- purchases of the securities by a broker-dealer as principal and resales of the securities by the broker-dealer for its account pursuant to this prospectus;
- ordinary brokerage transactions;
or
- transactions in which the broker-dealer solicits purchasers on a best efforts basis.

We may change the price of the securities offered from time to time.

Offers to purchase securities may be solicited directly by us and the sale thereof may be made by us directly to institutional investors or others. In this case, no underwriters or agents would be involved. We may use electronic media, including the Internet, to sell offered securities directly.

We, or agents designated by us, may directly solicit, from time to time, offers to purchase the securities. Any such agent may be deemed to be an underwriter as that term is defined in the Securities Act. We will name any agents involved in the offer or sale of the securities and describe any commissions payable by us to these agents in the prospectus supplement. Unless otherwise indicated in the prospectus supplement, these agents will be acting on a best efforts basis for the period of their appointment. The agents may be entitled under agreements which may be entered into with us to indemnification by us against specific civil liabilities, including liabilities under the Securities Act. The agents may also be our customers or may engage in transactions with or perform services for us in the ordinary course of business.

If we utilize any underwriters in the sale of the securities in respect of which this prospectus is delivered, we will enter into an underwriting agreement with those underwriters at the time of sale to them. We will set forth the names of these underwriters and the terms of the transaction in the prospectus supplement, which will be used by the underwriters to make resales of the securities in respect of which this prospectus is delivered to the public. We may indemnify the underwriters under the relevant underwriting agreement against specific liabilities, including liabilities under the Securities Act. The underwriters or their affiliates may be customers of, may engage in transactions with and may perform services for us or our affiliates in the ordinary course of business.

If we utilize a dealer in the sale of the securities in respect of which this prospectus is delivered, we will sell those securities to the dealer, as principal. The dealer may then resell those securities to the public at varying prices to be determined by the dealer at the time of resale. We may indemnify the dealers against specific liabilities, including liabilities under the Securities Act. The dealers or their affiliates may also be our customers or may engage in transactions with, or perform services for us in the ordinary course of business.

We may offer the common stock covered by this prospectus into an existing trading market on the terms described in the prospectus supplement relating thereto. Underwriters, dealers and agents who participate in any at-the-market offerings will be described in the prospectus supplement relating thereto.

A prospectus and accompanying prospectus supplement in electronic form may be made available on the web sites maintained by the underwriters. The underwriters may agree to allocate a number of securities for sale to their online brokerage account holders. Such allocations of securities for internet distributions will be made on the same basis as other allocations. In addition, securities may be sold by the underwriters to securities dealers who resell securities to online brokerage account holders.

The aggregate maximum compensation the underwriters will receive in connection with the sale of any securities under this prospectus and the registration statement of which it forms a part will not exceed 8% of the gross proceeds from the sale.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. The place and time of delivery for the securities in respect of which this prospectus is delivered will be set forth in the accompanying prospectus supplement.

In connection with offerings of securities under the registration statement of which this prospectus forms a part and in compliance with applicable law, underwriters, brokers or dealers may engage in transactions that stabilize or maintain the market price of the securities at levels above those that might otherwise prevail in the open market. Specifically, underwriters, brokers or dealers may over-allot in connection with offerings, creating a short position in the securities for their own accounts. For the purpose of covering a syndicate short position or stabilizing the price of the securities, the underwriters, brokers or dealers may place bids for the securities or effect purchases of the securities in the open market. Finally, the underwriters may impose a penalty whereby selling concessions allowed to syndicate members or other brokers or dealers for distribution of the securities in offerings may be reclaimed by the syndicate if the syndicate repurchases previously distributed securities in transactions to cover short positions, in stabilization transactions or otherwise. These activities may stabilize, maintain or otherwise affect the market price of the securities, which may be higher than the price that might otherwise prevail in the open market, and, if commenced, may be discontinued at any time.

DESCRIPTION OF COMMON STOCK

We are authorized to issue 300,000,000 shares of common stock, par value \$0.001 per share. On August 8, 2018, we had 54,034,689 shares of common stock outstanding and approximately 77 common stockholders of record.

The following summary of certain provisions of our common stock does not purport to be complete. This description is summarized from, and is qualified in its entirety by reference to, our amended and restated articles of incorporation and our amended and restated bylaws, to which you should refer and both of which are included as exhibits to the registration statement of which this prospectus is a part. The summary below is also qualified by provisions of applicable law, including Chapters 78 and 92A of the Nevada Revised Statutes, or NRS, as applicable to corporations.

General

The holders of our common stock are entitled to one vote per share on matters on which our stockholders vote. There are no cumulative voting rights. An election of directors by our stockholders shall be determined by a plurality of the votes cast by the stockholders entitled to vote on the election. Subject to any preferential dividend rights of any outstanding shares of preferred stock, holders of our common stock are entitled to receive dividends, if declared by our Board of Directors, out of funds that we may legally use to pay dividends. All of the issued and outstanding shares of our common stock are duly authorized, validly issued, fully paid and non-assessable.

If we liquidate or dissolve, holders of our common stock are entitled to share ratably in our assets once our debts and any liquidation preference owed to any then-outstanding preferred stockholders are paid. Our amended and restated articles of incorporation do not provide our common stock with any redemption, conversion or preemptive rights. The rights, preferences and privileges of holders of common stock are subject to and may be adversely affected by the rights of the holders of shares of any series of then-outstanding preferred stock.

Registration Rights

Private Placement Registration Rights

On December 17, 2014, we entered into a purchase agreement with multiple investors relating to the issuance and sale of shares of our common stock in a private placement (the "2014 Private Placement"). The 2014 Private Placement held closings on December 17, December 18, and December 23, 2014, through which we sold an aggregate of 6,779,510 shares of our common stock at \$2.00 per share for aggregate proceeds of approximately \$13.6 million.

We also issued warrants to acquire up to 542,360 shares of our common stock at an exercise price of \$2.00 per share to placement agents or their designees (the “Placement Agent Warrants”).

In connection with the 2014 Private Placement, we entered into a registration rights agreement and agreed to file a registration statement covering the resale of the shares sold in the 2014 Private Placement, the shares underlying the Placement Agent Warrants, and the 20,000,000 shares of our common stock issued to former stockholders of Pieris GmbH in connection with the share exchange transaction on December 17, 2014. We filed a registration statement on Form S-1 which was declared effective by the SEC on May 11, 2015. We have agreed to keep such registration statement effective until the later of December 17, 2016 and such time as all of the securities to be registered thereunder have been sold under the registration statement or may be sold without restriction pursuant to Rule 144.

On June 2, 2016, we entered into a securities purchase agreement with multiple investors relating to the issuance and sale of units consisting of: (i) one share of our common stock or non-voting series A convertible preferred stock convertible into one share of common stock, and (ii) a warrant to purchase 0.40 shares of our common stock with an exercise price of \$2.00 per share and (iii) a warrant to purchase 0.20 shares of our common stock with an exercise price of \$3.00 per share (the “2016 Private Placement”). The 2016 Private Placement closed on June 8, 2016 and we sold 8,188,804 units for gross proceeds of approximately \$16.5 million.

In connection with the 2016 Private Placement, we entered into a registration rights agreement with the investors and agreed to register the resale of the common stock, the common stock underlying the preferred stock, and the warrants. We filed a registration statement on Form S-3 which was declared effective by the SEC on August 3, 2016. We have agreed to use our commercially reasonable efforts to keep such registration statement effective until the earliest to occur of: (i) such time as all of the securities to be registered thereunder have been sold under the registration statement, (ii) such time as all of the securities to be registered thereunder may be sold without restriction pursuant to Rule 144, or (iii) June 8, 2018.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A. Its address is P.O. Box 505000, Louisville, KY, 40233-5000. Their telephone number is (877) 373-6374 from the United States, Canada and Puerto Rico and (781) 575-3100 from all other locations.

Stock Exchange Listing

Our common stock is listed for quotation on the Nasdaq Capital Market, under the symbol “PIRS.”

DESCRIPTION OF PREFERRED STOCK

We are authorized to issue 10,000,000 shares of preferred stock, par value \$0.001 per share. As of August 8, 2018, 2,907 shares of preferred stock were issued and outstanding. The following summary of certain provisions of our preferred stock does not purport to be complete. This description is summarized from, and is qualified in its entirety by reference to, our amended and restated articles of incorporation and our amended and restated bylaws, to which you should refer and both of which are included as exhibits to the registration statement of which this prospectus is a part. The summary below is also qualified by provisions of applicable law, including Chapters 78 and 92A of the NRS as applicable to corporations.

General

Our Board of Directors has the authority, without further stockholder authorization, to issue from time to time up to 10,000,000 shares of preferred stock in one or more series and to fix the voting powers, designations, preferences, limitations, restrictions, and relative rights of each series. If we issue preferred stock in the future, such preferred stock may have priority over common stock with respect to dividends and other distributions, including the distribution of assets upon liquidation. Although we have no present plans to issue any shares of preferred stock, the issuance of shares

of preferred stock, or the issuance of rights to purchase such shares, could decrease the amount of earnings and assets available for distribution to the holders of common stock, could adversely affect the rights and powers, including voting rights, of the common stock, and could have the effect of delaying, deterring or preventing a change of control of us or an unsolicited acquisition proposal.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate of designation establishing the terms of the preferred stock with the Nevada Secretary of State and the SEC. To the extent required, this description will include:

- the designation and stated value, if any;
- the number of shares offered, the liquidation preference, if any, per share and the purchase price per share;
- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;
- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;
- the procedures for any auction and remarketing, if any;
- the provisions for a sinking fund, if any;
- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of the Company; and
- any material limitations on issuance of any class or series of preferred stock ranking pari passu with or senior to the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the Company.

Transfer Agent and Registrar

The transfer agent and registrar for our preferred stock will be set forth in the applicable prospectus supplement.

DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future debt securities we may offer pursuant to this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. If we so indicate in a prospectus supplement, the terms of any debt securities offered under such prospectus supplement may differ from the terms we describe below, and to the extent the terms set forth in a prospectus supplement differ from the terms described below, the terms set forth in the prospectus supplement shall control.

The “Debt Securities” will be either senior debt securities, or Senior Debt Securities, or subordinated debt securities, or Subordinated Debt Securities. The Senior Debt Securities and the Subordinated Debt Securities will be issued under separate indentures among us, the subsidiary guarantors of such Debt Securities, if any, each a Subsidiary Guarantor, if applicable, and a trustee to be determined, the Trustee. Senior Debt Securities will be issued under a “Senior Indenture” and Subordinated Debt Securities will be issued under a “Subordinated Indenture.” Together, the Senior Indenture and the Subordinated Indenture are called “Indentures.” The form of each Indenture has been filed with the SEC as an exhibit to the registration statement of which this prospectus is a part, and you should read the Indentures for provisions that may be important to you.

The Indentures will be qualified under the Trust Indenture Act of 1939, as in effect on the date of the indenture. We use the term “debenture trustee” to refer to either the trustee under the senior indenture or the trustee under the subordinated indenture, as applicable. The following summaries of material provisions of the Debt Securities are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities.

General

The Debt Securities may be issued from time to time in one or more series and may be denominated and payable in foreign currencies or units based on or relating to foreign currencies. Neither Indenture limits the amount of Debt Securities that may be issued thereunder, and each Indenture provides that the specific terms of the Debt Securities shall be set forth in, or determined pursuant to, an authorizing resolution and/or a supplemental indenture, if any, relating to such series.

- the title of the Debt Securities;
- the aggregate principal amount and any limit on the aggregate principal amount of the Debt Securities;
- the currency or units based on or relating to currencies in which Debt Securities are denominated and the currency or units in which principal or interest or both will or may be payable;
- whether we will issue the series of Debt Securities in global form, the terms of any global securities and who the depository will be;
- whether or not the Debt Securities will be secured or unsecured, and the terms of any secured debt;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- whether the Indenture will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;
- whether we will be restricted from incurring any additional indebtedness;
- a discussion on any material or special U.S. federal income tax considerations applicable to Debt Securities;
- the denominations in which we will issue Debt Securities, if other than denominations of \$1,000 and any integral multiple thereof;
- whether the Debt Securities are Senior Debt Securities or Subordinated Debt Securities and, if Subordinated Debt Securities, the related subordination terms;
- whether any Subsidiary Guarantor will provide a Subsidiary Guarantee of the Debt Securities;
- each date on which the principal of the Debt Securities will be payable;
- the interest rate, which may be fixed or variable, or the method for determining the rate and date interest will begin to accrue, that the Debt Securities will bear and the interest payment dates for the Debt Securities;
- each place where payments on the Debt Securities will be payable;
- any terms upon which the Debt Securities may be redeemed, in whole or in part, at our option;
- any sinking fund or other provisions that would obligate us to redeem or otherwise repurchase the Debt Securities;
- the portion of the principal amount, if less than all, of the Debt Securities that will be payable upon declaration of acceleration of the Maturity of the Debt Securities;
- whether the Debt Securities are defeasible;
- any addition to or change in the events of default;
- whether the Debt Securities are convertible into our common stock and, if so, the terms and conditions upon which conversion will be effected, including the initial conversion price or conversion rate and any adjustments thereto and the conversion period;

- any addition to or change in the covenants in the Indenture applicable to the Debt Securities;
- any other specific terms, preferences, rights or limitations of, or restrictions on, the Debt Securities; and
- any other terms of the Debt Securities not inconsistent with the provisions of the Indenture.

Debt Securities, including any Debt Securities that provide for an amount less than the principal amount thereof to be due and payable upon a declaration of acceleration of the maturity thereof, or Original Issue Discount Securities, may be sold at a substantial discount below their principal amount. Special United States federal income tax considerations applicable to Original Issue Discount Securities may be described in the applicable prospectus supplement. In addition, special United States federal income tax or other considerations applicable to any Debt Securities that are denominated in a currency or currency unit other than United States dollars may be described in the applicable prospectus supplement.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms, if any, on which Debt Securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of Debt Securities receive would be subject to adjustment.

Consolidation, Merger or Sale; No Protection in Event of a Change of Control or Highly Leveraged Transaction

The Indentures do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the Indentures or the Debt Securities, as appropriate, satisfactory in form to the debenture trustee.

Unless we state otherwise in the applicable prospectus supplement, the Debt Securities will not contain any provisions that may afford holders of the Debt Securities protection in the event we have a change of control or in the event of a highly leveraged transaction (whether or not such transaction results in a change of control), which could adversely affect holders of Debt Securities.

Events of Default Under the Indenture

The following are events of default under the Indentures with respect to any series of Debt Securities that we may issue:

- if we fail to pay interest when due and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, or premium, if any, when due and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant set forth in the Debt Securities of such series or the applicable Indentures, other than a covenant specifically relating to and for the benefit of holders of another series of Debt Securities, and our failure continues for 90 days after we receive written notice from the debenture trustee or holders of not less than a majority in aggregate principal amount of the outstanding Debt Securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur as to us.

No event of default with respect to a particular series of Debt Securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of Debt Securities. The occurrence of an event of default may constitute an event of default under any bank credit agreements we may have in existence from time to time. In addition, the occurrence of certain events of default or acceleration under any applicable Indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default with respect to Debt Securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding Debt Securities of that series may, by a notice in writing to us (and to the debenture trustee if given by the holders), declare to be due and payable immediately the principal (or, if the Debt Securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and premium and accrued and unpaid interest, if any, on all Debt Securities of that series. Before a judgment or decree for payment of the money due has been obtained with respect to Debt Securities of any series, the holders of a majority in principal amount of the outstanding Debt Securities of that series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities) default, other than the non-payment of accelerated principal, premium, if any, and interest, if any, with respect to Debt Securities of that series, have been cured or waived as provided in the applicable Indenture (including payments or deposits in respect of principal, premium or interest that had become due other than as a result of such acceleration). We refer you to the prospectus supplement relating to any series of Debt Securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an event of default.

Subject to the terms of the Indentures, if an event of default under an Indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such Indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding Debt Securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the Debt Securities of that series, provided that:

- the direction so given by the holder is not in conflict with any law or the applicable Indenture;
and
- subject to its duties under the Trust Indenture Act, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the Debt Securities of any series will only have the right to institute a proceeding under the Indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder previously has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least a majority in aggregate principal amount of the outstanding Debt Securities of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding Debt Securities of that series (or at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) other conflicting directions within 60 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of Debt Securities if we default in the payment of the principal, premium, if any, or interest on, the Debt Securities. We will periodically file statements with the applicable debenture trustee regarding our compliance with specified covenants in the applicable Indenture.

Modification of Indenture; Waiver

The debenture trustee and we may change the applicable Indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the Indenture;
and
- to change anything that does not materially adversely affect the interests of any holder of Debt Securities of any series issued pursuant to such Indenture.

In addition, under the Indentures, the rights of holders of a series of Debt Securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding Debt Securities of each series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) that is affected. However, the debenture trustee and we may make the following changes only with the consent of each holder of any outstanding Debt Securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon the redemption of any debt securities;
- reducing the principal amount of discount securities payable upon acceleration of maturity;
- making the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment or waiver.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding Debt Securities of any series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the Debt Securities of such series represented at such meeting) may on behalf of the holders of all Debt Securities of that series waive our compliance with provisions of the Indenture. The holders of a majority in principal amount of the outstanding Debt Securities of any series may on behalf of the holders of all the Debt Securities of such series waive any past default under the Indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series or in respect of a covenant or provision, which cannot be modified or amended without the consent of the holder of each outstanding debt security of the series affected; provided, however, that the holders of a majority in principal amount of the outstanding Debt Securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Discharge

Each Indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for obligations to:

- register the transfer or exchange of Debt Securities of the series;
- replace stolen, lost or mutilated Debt Securities of the series;
- maintain paying agencies;
- hold monies for payment in trust;
- compensate and indemnify the trustee; and
- appoint any successor trustee.

In order to exercise our rights to be discharged with respect to a series, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, the premium, if any, and interest on, the Debt Securities of the series on the dates payments are due.

Form, Exchange, and Transfer

We will issue the Debt Securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The Indentures provide that we may issue Debt Securities of a series in temporary or permanent global form and as book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the Indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the Debt Securities of any series can exchange the Debt Securities for other Debt Securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the Indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the Debt Securities may present the Debt Securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the Debt Securities that the holder presents for transfer or exchange or in the applicable Indenture, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the Debt Securities of each series.

If we elect to redeem the Debt Securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any Debt Securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any Debt Securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any Debt Securities so selected for redemption, in whole or in part, except the unredeemed portion of any Debt Securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under the applicable Indenture, undertakes to perform only those duties as are specifically set forth in the applicable Indenture. Upon an event of default under an Indenture, the debenture trustee under such Indenture must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the Indentures at the request of any holder of Debt Securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any Debt Securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the Debt Securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check which we will mail to the holder. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to Debt Securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the Debt Securities of a particular series. We will maintain a paying agent in each place of payment for the Debt Securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any Debt Securities which remains unclaimed at the end of two years after such principal, premium or

interest has become due and payable will be repaid to us, and the holder of the security thereafter may look only to us for payment thereof.

Governing Law

The Indentures and the Debt Securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Subordination of Subordinated Debt Securities

Our obligations pursuant to any subordinated Debt Securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The Indentures do not limit the amount of indebtedness we may incur. The Indentures also do not limit us from issuing any other secured or unsecured debt.

DESCRIPTION OF WARRANTS

General

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in the applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the warrant agreements and the prospectus supplement relating to the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that series of our preferred stock;
- if applicable, the exercise price for our debt securities, the amount of debt securities to be received upon exercise, and a description of that series of debt securities;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
- the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;
- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the common stock, preferred stock and/or debt securities will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- whether the warrants may be sold separately or with other securities as parts of units; and

- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Outstanding Warrants

As of August 8, 2018, we had outstanding warrants to purchase 2,614,018 shares of our common stock at an exercise price of \$2.00 per share and outstanding warrants to purchase 1,240,737 shares of our common stock at an exercise price of \$3.00.

Transfer Agent and Registrar

The transfer agent and registrar for any warrants will be set forth in the applicable prospectus supplement.

DESCRIPTION OF RIGHTS

General

We may issue rights to our stockholders to purchase shares of our common stock, shares of our preferred stock or any of the other securities described in this prospectus. We may offer rights separately or together with one or more additional rights, debt securities, preferred stock, common stock, warrants or purchase contracts, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. Each series of rights will be issued under a separate rights agreement to be entered into between us and a bank or trust company, as rights agent. The rights agent will act solely as our agent in connection with the certificates relating to the rights of the series of certificates and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. The following description sets forth certain general terms and provisions of the rights to which any prospectus supplement may relate. The particular terms of the rights to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the rights so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the rights, rights agreement or rights certificates described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable rights agreement and rights certificate for additional information before you decide whether to purchase any of our rights.

We will provide in a prospectus supplement the following terms of the rights being issued:

- the date of determining the stockholders entitled to the rights distribution;
- the aggregate number of shares of common stock, preferred stock or other securities purchasable upon exercise of the rights;
- the exercise price;
- the aggregate number of rights issued;
- whether the rights are transferrable and the date, if any, on and after which the rights may be separately transferred;
- the date on which the right to exercise the rights will commence, and the date on which the right to exercise the rights will expire;
- the method by which holders of rights will be entitled to exercise;
- the conditions to the completion of the offering, if any;
- the withdrawal, termination and cancellation rights, if any;
- whether there are any backstop or standby purchaser or purchasers and the terms of their commitment, if any;
- whether stockholders are entitled to oversubscription rights, if any;
- any applicable material U.S. federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of the rights, as applicable.

Each right will entitle the holder of rights to purchase for cash the principal amount of shares of common stock, preferred stock or other securities at the exercise price provided in the applicable prospectus supplement. Rights

may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement.

Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the shares of common stock, preferred stock or other securities, as applicable, purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

Rights Agent

The rights agent for any rights we offer will be set forth in the applicable prospectus supplement.

DESCRIPTION OF PURCHASE CONTRACTS

We may issue purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or variable number of our debt securities, shares of common stock, shares of our preferred stock, warrants or rights, or securities of an entity unaffiliated with us, or any combination of the above, at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or variable number of our debt securities, shares of common stock, preferred stock, warrants, rights or other property, or any combination of the above. The price of the securities or other property subject to the purchase contracts may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula described in the purchase contracts. We may issue purchase contracts separately or as a part of units each consisting of a purchase contract and one or more of our other securities described in this prospectus or securities of third parties, including U.S. Treasury securities, securing the holder's obligations under the purchase contract. The purchase contracts may require us to make periodic payments to holders or vice versa and the payments may be unsecured or pre-funded on some basis. The purchase contracts may require holders to secure the holder's obligations in a manner specified in the applicable prospectus supplement.

The applicable prospectus supplement will describe the terms of any purchase contracts in respect of which this prospectus is being delivered, including, to the extent applicable, the following:

- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts;
- any applicable material U.S. federal income tax considerations;
and
- whether the purchase contracts will be issued in fully registered or global form.

The preceding description sets forth certain general terms and provisions of the purchase contracts to which any prospectus supplement may relate. The particular terms of the purchase contracts to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the purchase contracts so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the purchase contracts described in a prospectus supplement differ from any of the terms described above, then the terms described above will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable purchase contract for additional information before you decide whether to purchase any of our purchase contracts.

DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements summarizes the material terms and provisions of the units that we may offer under this prospectus. While

the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

We may issue units consisting of shares of our common stock, shares of our preferred stock, one or more debt securities, warrants, rights or purchase contracts for the purchase of common stock, preferred stock and/or debt securities in one or more series, in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each security included in the unit. 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.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

- 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 of the governing unit agreement that differ from those described below;
- and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those set forth in any prospectus supplement or as described under “Description of Common Stock,” “Description of Preferred Stock,” “Description of Debt Securities,” “Description of Warrants,” “Description of Rights” and “Description of Purchase Contracts” will apply to each unit, as applicable, and to any common stock, preferred stock, debt security, warrant, right or purchase contract included in each unit, as applicable.

Unit Agent

The name and address of the unit agent for any units we offer will be set forth in the applicable prospectus supplement.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

CERTAIN PROVISIONS OF NEVADA LAW AND OF THE COMPANY'S ARTICLES OF INCORPORATION AND BYLAWS

Anti-Takeover Effects of Our amended and restated articles of incorporation and Amended and restated bylaws and Certain Provisions of Nevada Law

Our amended and restated articles of incorporation, amended and restated bylaws and the NRS contain provisions that may have the effect of maintaining continuity and stability in the composition of our Board of Directors. These provisions may help us avoid costly takeover battles, reduce our vulnerability to a hostile change of control and enhance the ability of our Board of Directors to effectively evaluate and negotiate in connection with any unsolicited offer to acquire us. However, these provisions may have an anti-takeover effect and may delay, deter or prevent a merger or acquisition of our company by means of a tender offer, a proxy contest or other takeover attempt that a stockholder might consider to be in its best interest, including attempts that might result in a premium over the prevailing market price for the shares of common stock held by stockholders.

Business Combinations and Acquisition of Control Shares

Nevada's "combinations with interested stockholders" statutes (NRS 78.411 through 78.444, inclusive) prohibit specified types of business "combinations" between certain Nevada corporations and any person deemed to be an "interested stockholder" for two years after such person first becomes an "interested stockholder" unless the corporation's board of directors approves the combination (or the transaction by which such person becomes an "interested stockholder") in advance, or unless the combination is approved by the board of directors and sixty percent of the corporation's voting power not beneficially owned by the interested stockholder, its affiliates and associates. Furthermore, in the absence of prior approval, certain restrictions may apply even after such two-year period. However, these statutes do not apply to any combination of a corporation and an interested stockholder after the expiration of four years after the person first became an interested stockholder. For purposes of these statutes, an "interested stockholder" is any person who is (1) the beneficial owner, directly or indirectly, of ten percent or more of the voting power of the outstanding voting shares of the corporation, or (2) an affiliate or associate of the corporation and at any time within the two previous years was the beneficial owner, directly or indirectly, of ten percent or more of the voting power of the then-outstanding shares of the corporation. The definition of the term "combination" is sufficiently broad to cover most significant transactions between a corporation and an "interested stockholder." These laws generally apply to Nevada corporations with 200 or more stockholders of record, but a Nevada corporation may elect in its articles of incorporation not to be governed by these particular laws. We have not made such an election in our amended and restated articles of incorporation.

Nevada's "acquisition of controlling interest" statutes (NRS 78.378 through 78.3793, inclusive) contain provisions governing the acquisition of a controlling interest in certain Nevada corporations. These "control share" laws provide generally that any person that acquires a "controlling interest" in certain Nevada corporations may be denied voting rights, unless a majority of the disinterested stockholders of the corporation elects to restore such voting rights. Our amended and restated articles of incorporation include our election to provide that these statutory provisions shall not apply to us or to any acquisition of our common stock. If our amended and restated articles of incorporation are amended to remove such elective provision, and absent a similar provision included in an amendment to our amended and restated bylaws, these laws would then apply to us if we were to have 200 or more stockholders of record (at least 100 of whom have addresses in Nevada appearing on our stock ledger) and do business in the State of Nevada directly or through an affiliated corporation, unless our articles of incorporation or bylaws in effect on the tenth day after the acquisition of a controlling interest provide otherwise. These laws provide that a person acquires a "controlling interest" whenever a person acquires shares of a subject corporation that, but for the application of these provisions of the NRS, would enable that person to exercise (i) one-fifth or more, but less than one-third, (ii) one-third or more, but less than a majority or (iii) a majority or more, of all of the voting power of the corporation in the election of directors. Once an acquirer crosses one of these thresholds, shares which it acquired in the transaction taking it over the threshold and within the 90 days immediately preceding the date when the acquiring person acquired or offered to acquire a controlling interest become "control shares" to which the voting restrictions described above apply.

In addition, NRS 78.139 also provides that directors may resist a change or potential change in control if the directors, by majority vote of a quorum, determine that the change is opposed to, or not in, the best interest of the corporation.

Classified Board of Directors; Removal of Directors Only for Cause

Pursuant to our amended and restated articles of incorporation and amended and restated bylaws, our Board of Directors is divided into three classes, with the term of office of the first class to expire at the first annual meeting of stockholders following the initial classification of directors and until their successors are duly elected and qualified, the term of office of the second class to expire at the second annual meeting of stockholders following the initial classification of directors and until their successors are duly elected and qualified, and the term of office of the third class to expire at the third annual meeting of stockholders following the initial classification of directors and until their successors are duly elected and qualified. At each annual meeting of stockholders, directors elected to succeed those directors whose terms expire, other than directors elected by the holders of any series of preferred stock under specified circumstances, will be elected for a three-year term of office. All directors elected to our classified Board of Directors will serve until the election and qualification of their respective successors or their earlier resignation or removal. Members of the Board of Directors may only be removed for cause and only by the affirmative vote of at least 80% of our outstanding voting stock. These provisions are likely to increase the time required for stockholders to change the composition of the Board of Directors. For example, at least two annual meetings will be necessary for stockholders to effect a change in a majority of the members of the Board of Directors.

Dividends and Other Distributions

Under NRS 78.288, the directors of a Nevada corporation may authorize, and the corporation may make, distributions (including cash dividends) to stockholders, but no such distribution may be made if, after giving it effect:

- the corporation would not be able to pay its debts as they become due in the usual course of business;
or
- except as otherwise specifically allowed by such corporation's articles of incorporation, the corporation's total assets would be less than the sum of (x) its total liabilities plus (y) the amount that would be needed, if the corporation were to be dissolved at the time of distribution, to satisfy the preferential rights upon dissolution of stockholders whose preferential rights are superior to those receiving the distribution.

The NRS prescribes the timing of the determinations above depending on the nature and timing of payment of the distribution. For cash dividends paid within 120 days after the date of authorization, the determinations above must be made as of the date the dividend is authorized. When making their determination that a distribution is not prohibited by NRS 78.288, directors may consider:

- financial statements prepared on the basis of accounting practices that are reasonable in the circumstances;
- a fair valuation, including, but not limited to, unrealized appreciation and depreciation;
and/or
- any other method that is reasonable in the circumstances.

Declaration and payment of any dividend will be subject to the discretion of our Board of Directors. The payment of any future dividends will be at the discretion of our Board of Directors; however, the time and amount of such dividends, if any, will be dependent upon our financial condition, operations, compliance with applicable law, cash requirements and availability, debt repayment obligations, capital expenditure needs and restrictions in our debt instruments, contractual restrictions, business prospects, industry trends, the provisions of Nevada law affecting the payment of distributions and any other factors our Board of Directors may consider relevant. Our ability to pay dividends on our common stock may depend in part on our receipt of cash dividends from our operating subsidiaries, which may be restricted from paying us dividends as a result of the laws of their jurisdiction of organization, agreements of our subsidiaries or covenants under any existing and future outstanding indebtedness we or our subsidiaries incur.

Advance Notice Provisions for Stockholder Proposals and Stockholder Nominations of Directors

Our amended and restated bylaws provide that, for nominations to the Board of Directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely notice of the proposal in writing to our Secretary. For an annual meeting, a stockholder's notice generally must be delivered not less than 90 days nor more than 120 days prior to the first anniversary of the previous year's annual meeting date. For a special meeting, the notice must generally be delivered not earlier than the 90th day prior to the meeting and not later than the later of (i) the 60th day prior to the meeting or (ii) the 10th day following the day on which public announcement of the meeting is first made. Detailed requirements as to the form of the notice and information required in the notice are specified in the amended and restated bylaws. If it is determined that business was not properly brought before a meeting in accordance with our bylaw provisions, such business will not be conducted at the meeting.

Special Meetings of Stockholders

Special meetings of the stockholders may be called only by our Board of Directors pursuant to a resolution adopted by a majority of the total number of directors.

Liability and Indemnification of Directors and Officers

The Nevada Revised Statutes empower us to indemnify our directors and officers against expenses relating to certain actions, suits or proceedings as provided for therein. In order for such indemnification under the statutes to be available, the applicable director or officer must not have acted in a manner that constituted a breach of his or her fiduciary duties and involved intentional misconduct, fraud or a knowing violation of law and was material to the action, or must have acted in good faith and reasonably believed that his or her conduct was in, or not opposed to, our best interests. In the event of a criminal action, the applicable director or officer must not have had reasonable cause to believe his or her conduct was unlawful. However, the indemnification pursuant to the NRS and advancement of expenses authorized in or ordered by a court pursuant to the statutes does not exclude any other rights to which a person seeking indemnification or advancement of expenses may be entitled under our amended and restated articles of incorporation or any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, for either an action in the person's official capacity or an action in another capacity while holding office, except that indemnification, unless ordered by a court pursuant to Section 78.7502 of the NRS or for the advancement of expenses made pursuant to Section 78.751(2) of the NRS, may not be made to or on behalf of any director or officer if a final adjudication establishes that the director's or officer's acts or omissions involved intentional misconduct, fraud or a knowing violation of the law and was material to the cause of action.

Under applicable provisions of the Nevada Revised Statutes, our amended and restated articles of incorporation, amended and restated bylaws or any separate agreement may provide for our payment of expenses incurred by any such director or officer in advance of the final disposition of the applicable action, suit or proceeding, upon delivery by such director or officer of an undertaking to repay all amounts so advanced if it is ultimately determined that the director or officer is not entitled to be indemnified by us.

Our amended and restated articles of incorporation provide for indemnification of our directors and officers substantially identical in scope to that permitted under applicable Nevada law. Our amended and restated articles of incorporation also provide that the expenses of our directors and officers incurred in defending any applicable action, suit or proceeding must be paid by us as they are incurred and in advance of the final disposition of the action, suit or proceeding, provided that the required undertaking by the director or officer is delivered to us.

We have also entered into separate indemnification agreements with each of our current directors and executive officers consistent with Nevada law and in the form approved by our Board of Directors and our stockholders, and we contemplate entering into such indemnification agreements with directors and certain executive officers that may be elected or appointed in the future. Those indemnification agreements require that under the circumstances and to the extent provided for therein, we indemnify such persons to the fullest extent permitted by applicable law against certain expenses incurred by any such person as a result of such person being made a party to certain actions, suits and

proceedings by reason of the fact that such person is or was a director, officer, employee or agent of our company, any entity that was a predecessor corporation of our company or any of our affiliates. The rights of each person who is a party to such an indemnification agreement are in addition to any other rights such person may have under applicable Nevada law, our amended and restated articles of incorporation, our amended and restated bylaws, any other agreement, a vote of our stockholders, a resolution adopted by our Board of Directors or otherwise. The foregoing is only a brief description of the form of indemnification agreement, does not purport to be a complete description of the rights and obligations of the parties thereunder and is qualified in its entirety by reference to the form of indemnification agreement filed as an exhibit to this prospectus and incorporated herein by reference.

We also maintain a customary insurance policy that indemnifies our directors and officers against various liabilities, including liabilities arising under the Securities Act that may be incurred by any director or officer in his or her capacity as such.

At present, there is no pending litigation or proceeding involving any of our directors or officers for which indemnification is sought, nor are we aware of any threatened litigation that is likely to result in claims for indemnification.

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

No Stockholder Action by Written Consent

Any action to be effected by our stockholders must be effected at a duly called annual or special meeting of the stockholders and not by written consent.

Super Majority Stockholder Vote Required for Certain Actions

Our amended and restated articles of incorporation and amended and restated bylaws provide that the Board of Directors is expressly authorized to make, alter, amend, change, add to, rescind or repeal, in whole or in part, our bylaws without a stockholder vote in any manner not inconsistent with Nevada law and our amended and restated articles of incorporation. Our amended and restated articles of incorporation require the affirmative vote of the holders of at least 80% of our outstanding voting stock to amend or repeal any of the provisions discussed in this section under the heading "Anti-Takeover Effects of Our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws and Certain Provisions of Nevada Law," as well as certain other provisions of our amended and restated articles of incorporation. This 80% stockholder vote would be in addition to any separate class vote that might in the future be required pursuant to the terms of any preferred stock that might then be outstanding. An 80% vote is also required for any amendment to, or repeal of, our amended and restated bylaws by the stockholders and for the removal of any member of or our entire Board of Directors. Our amended and restated bylaws may be amended or repealed by a majority vote of the Board of Directors.

Deemed Notice and Consent

Our amended and restated articles of incorporation provide that any person purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed, to the fullest extent permitted by law, to have notice of and consented to all of the provisions of our amended and restated articles of incorporation, our Amended and restated

bylaws and any amendment to our articles of incorporation or bylaws enacted in accordance therewith and applicable law.

LEGAL MATTERS

The validity of the issuance of the shares of our common stock or preferred stock offered hereby will be passed upon for us by Brownstein Hyatt Farber Schreck, LLP, Las Vegas, Nevada. Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, will pass upon the binding nature of any other securities being offered hereby. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in the applicable prospectus supplement.

EXPERTS

The consolidated financial statements of Pieris Pharmaceuticals, Inc. appearing in Pieris Pharmaceuticals, Inc.'s Annual Report (Form 10-K) for the year ended December 31, 2017 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon included therein, and incorporated herein by reference. Such financial statements are, and audited financial statements to be included in subsequently filed documents will be, incorporated herein in reliance upon the report of Ernst & Young LLP pertaining to such financial statements (to the extent covered by consents filed with the Securities and Exchange Commission) given on the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference facilities at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference facilities. SEC filings are also available at the SEC's web site at <http://www.sec.gov>.

This prospectus is only part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended, and therefore omits certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document. You may inspect a copy of the registration statement, including the exhibits and schedules, without charge, at the public reference room or obtain a copy from the SEC upon payment of the fees prescribed by the SEC.

We also maintain a website at www.pieris.com, through which you can access our SEC filings. The information set forth on our website is not part of this prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to "incorporate by reference" into this prospectus information that we have filed with the SEC. This means we can disclose important information to you by referring you to other documents that contain that information. The information incorporated by reference is considered part of this prospectus. We incorporate by reference the documents listed below:

- Our Annual Report on Form 10-K for the fiscal year ended December 31, 2017 that we filed with the SEC on March 15, 2018;

- the portions of our definitive proxy statement on Schedule 14A filed on June 14, 2018 that are deemed “filed” with the SEC under the Exchange Act;
- our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2018 and June 30, 2018 that we filed with the SEC on May 10, 2018 and August 9, 2018;
- Our Current Reports on Form 8-K that we filed with the SEC on February 9, 2018, February 13, 2018, February 14, 2018, February 20, 2018, April 25, 2018 and July 26, 2018;
- the description of our common stock contained in our Registration Statement on Form 8-A filed on June 24, 2015, including any amendment or report filed for the purpose of updating such description; and
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

The SEC file number for each of the documents listed above is 001-37471.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statements so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request a copy of these documents, orally or in writing, which will be provided to you at no cost, by contacting:

Pieris Pharmaceuticals, Inc.
255 State Street, 9th Floor
Boston, Massachusetts 02109
Attention: Investor Relations
Telephone: +1 (857) 246-8998

You may also access these documents on our website, <http://www.pieris.com>. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

You should rely only on information contained in, or incorporated by reference into, this prospectus and any prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference in this prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth an itemization of the various expenses, all of which we will pay, in connection with the issuance and distribution of the securities being registered. All of the amounts shown are estimated except the SEC Registration Fee.

SEC Registration Fee	\$18,749.70
Legal Fees and Expenses	*
Accounting Fees and Expenses	*
Printing and Miscellaneous Fees and Expenses	*
Total	*

*Fees depend on number of issuances and amount of securities sold and accordingly cannot be estimated at this time.

Item 15. Indemnification of Directors and Officers.

We are a Nevada corporation and governed by the Nevada Revised Statutes, or NRS.

Our amended and restated articles of incorporation and our amended and restated bylaws provide that each person who was or is made a party or is threatened to be made a party to or is otherwise involved (including, without limitation, as a witness) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he or she is or was one of our directors or officers or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, whether the basis of such action, suit or proceeding is alleged action in an official capacity as a director, officer or trustee or in any other capacity while serving as a director, officer or trustee, shall be indemnified and held harmless by us to the fullest extent authorized by the NRS against all expense, liability and loss (including attorneys' fees and amounts paid in settlement) reasonably incurred or suffered by such.

NRS 78.7502 permits a corporation to indemnify any director or officer of the corporation against expenses (including attorneys' fees) and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding brought by reason of the fact that such person is or was a director or officer of the corporation, if such person (i) is not liable pursuant to NRS 78.138 and (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the conduct was unlawful. In a derivative action (i.e., one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or the suit if such person (i) is not liable pursuant to NRS 78.138 and (ii) acted in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought or some other court of competent jurisdiction determines that such person is fairly and reasonably entitled to indemnity for such expenses as the court deems proper.

Our amended and restated articles of incorporation provide that the liability of our directors and officers shall be eliminated or limited to the fullest extent permitted by the NRS. NRS 78.138(7) provides that, subject to limited statutory exceptions and unless the articles of incorporation or an amendment thereto (in each case filed on or after October 1, 2003) provide for greater individual liability, a director or officer is not individually liable to a corporation or its stockholders or creditors for any damages as a result of any act or failure to act in his or her capacity as a director or officer unless it is proven that: (i) the presumption established by NRS 78.138(3) has been rebutted, (ii) the act or failure to act constituted a breach of his or her fiduciary duties as a director or officer and (iii) the breach of those duties involved intentional misconduct, fraud or a knowing violation of law.

We have entered into indemnification agreements with our directors and certain officers, in addition to the indemnification provided in the NRS, our amended and restated articles of incorporation and our Amended and restated bylaws, and intend to enter into indemnification agreements with any new directors and officers in the future. We have purchased and intend to maintain insurance on behalf of any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusions.

The foregoing discussion of our amended and restated articles of incorporation, amended and restated bylaws, indemnification agreements, indemnity agreement, and Nevada law is not intended to be exhaustive and is qualified in its entirety by such amended and restated articles of incorporation, amended and restated bylaws, indemnification agreements, indemnity agreement, or law.

Item 16. Exhibits.

A list of exhibits filed with this registration statement on Form S-3 is set forth on the Exhibit Index and is incorporated herein by reference.

Item 17. Undertakings.

(a) 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 of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the 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 the 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 prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 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 the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the 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 of 1933, 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:
 - (i) 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
 - (ii) 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 of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, 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.
- (b) The undersigned registrant hereby undertakes 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 the 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.
- (c) The undersigned registrant hereby undertakes to supplement the prospectus, after the expiration of the subscription period, to set forth the results of the subscription offer, the transactions by the underwriters during the subscription period, the amount of unsubscribed securities to be purchased by the underwriters, and the terms of any subsequent reoffering thereof. If any public offering by the underwriters is to be made on terms differing from those set forth on the cover page of the prospectus, a posteffective amendment will be filed to set forth the terms of such offering.
- (d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the 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 Act and will be governed by the final adjudication of such issue.
- (e) The undersigned registrant hereby undertakes 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 ("Act") in accordance with the rules and regulations prescribed by the Commission under section 305(b)(2) of the Act.

EXHIBIT INDEX

Exhibit Number	Description
1.1*	Form of Underwriting Agreement.
2.1	Acquisition Agreement, dated as of December 17, 2014, by and among the Registrant, Pieris AG and the former stockholders of Pieris AG named therein (incorporated by reference to Exhibit 2.1 of the Registrant's Current Report on Form 8-K (File No. 333-190728), filed with the SEC on December 18, 2014).
4.1	Amended and Restated Articles of Incorporation of the Registrant (incorporated by reference to Exhibit 3.1 of the Registrant's Current Report on Form 8-K (File No. 333-109728), filed with the SEC on December 18, 2014).
4.2	Amended and Restated By-laws of the Registrant (incorporated by reference to Exhibit 3.2 of the Registrant's Current Report on Form 8-K (File No. 333-109728), filed with the SEC on December 18, 2014).
4.3	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 of the Registrant's Current Report on Form 8-K (File No. 333-109728), filed with the SEC on December 18, 2014).
4.4	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.2 of the Registrant's Annual Report on Form 10-K (File No. 001-37471), filed with the SEC on March 23, 2016).
4.5	Form of Senior Indenture
4.6	Form of Subordinated Indenture
4.7*	Form of Senior Debt Security
4.8*	Form of Subordinated Debt Security
4.9*	Specimen Preferred Stock Certificate and Form of Certificate of Designation of Preferred Stock
4.10*	Form of Warrant Agreement and Warrant
4.11*	Form of Rights Agreement and Right Certificate
4.12*	Form of Purchase Contract
4.13*	Form of Unit Agreement and Unit
5.1	Opinion of Brownstein Hyatt Farber Schreck, LLP
5.2	Opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
12.1*	Computation of Ratio of Earnings to Fixed Charges
23.1	Consent of Ernst & Young Independent Registered Public Accounting Firm
23.2	Consent of Brownstein Hyatt Farber Schreck, LLP (included in Exhibit 5.1)
23.3	Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (included in Exhibit 5.2)
24.1	Powers of Attorney (included on the signature page of this registration statement)
25.1*	Statement of Eligibility of Trustee under the Indenture on Form T-1 to be filed separately pursuant to Section 305(b)(2) of the Trust Indenture Act of 1939
*	To be subsequently filed, if applicable, by an amendment to this registration statement or by a current report on Form 8-K.

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 Boston, Commonwealth of Massachusetts, on August 9, 2018.

PIERIS PHARMACEUTICALS, INC.

By: /s/ Stephen S. Yoder
Stephen S. Yoder
Chief Executive Officer
and President

SIGNATURES AND POWER OF ATTORNEY

We, the undersigned officers and directors of Pieris Pharmaceuticals, Inc., hereby severally constitute and appoint Stephen S. Yoder and Allan Reine, and each of them singly (with full power to each of them to act alone), our true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution in each of them for her or him and in her or his name, place and stead, and in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement (or any other registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite or necessary to be done in and about the premises, as full to all intents and purposes as she or he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or her or his substitute or 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 below by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Stephen S. Yoder</u> Stephen S. Yoder	President, Chief Executive Officer (Principal Executive Officer) and Director	August 9, 2018
<u>/s/ Allan Reine</u> Allan Reine, M.D.	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	August 9, 2018
<u>/s/ James Geraghty</u> James Geraghty	Director	August 9, 2018
<u>/s/ Michael Richman</u> Michael Richman	Director	August 9, 2018
<u>/s/ Steven Prelack</u> Steven Prelack	Director	August 9, 2018
<u>/s/ Ann Barbier, M.D., Ph.D.</u> Ann Barbier, M.D., Ph.D.	Director	August 9, 2018
<u>/s/ Jean-Pierre Bizzari, M.D.</u> Jean-Pierre Bizzari, M.D.	Director	August 9, 2018
<u>/s/ Christopher Kiritsy</u> Christopher Kiritsy	Director	August 9, 2018

PIERIS PHARMACEUTICALS, INC.

Issuer

AND

[]

Trustee

INDENTURE

Dated as of []

Senior Debt Securities

CROSS-REFERENCE TABLE (1)

Section of Trust Indenture Act of 1939, as Amended	Section of Indenture
310(a).	7.09
310(b).	7.08
	7.10
310(c).	Inapplicable
311(a).	7.13(a)
311(b).	7.13(b)
311(c).	Inapplicable
312(a).	5.02(a)
312(b).	5.02(b)
312(c).	5.02(c)
313(a).	5.04(a)
313(b).	5.04(a)
313(c).	5.04(a)
	5.04(b)
313(d).	5.04(b)
314(a).	5.03
314(b).	Inapplicable
314(c).	13.06
314(d).	Inapplicable
314(e).	13.06
314(f).	Inapplicable
315(a).	7.01(a)
	7.02
315(b).	6.07
315(c).	7.01
315(d).	7.01(b)
	7.01(c)
315(e).	6.07
316(a).	6.06
	8.04
316(b).	6.04
316(c).	8.01
317(a).	6.02
317(b).	4.03
318(a).	13.08

(1) This Cross-Reference Table does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms or provisions.

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(2) This Table of Contents does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms and provisions.

INDENTURE, dated as of [], by and between Pieris Pharmaceuticals, Inc., a Nevada corporation (the “Company”), and [], as trustee (the “Trustee”):

WHEREAS, for its lawful corporate purposes, the Company has duly authorized the execution and delivery of this Indenture to provide for the issuance of debt securities (hereinafter referred to as the “Securities”), in an unlimited aggregate principal amount to be issued from time to time in one or more series as in this Indenture provided, as registered Securities without coupons, to be authenticated by the certificate of the Trustee;

WHEREAS, to provide the terms and conditions upon which the Securities are to be authenticated, issued and delivered, the Company has duly authorized the execution of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid agreement of the Company, in accordance with its terms, have been done.

NOW, THEREFORE, 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 Securities:

ARTICLE I

DEFINITIONS

SECTION 1.01 Definitions of Terms.

The terms defined in this Section (except as in this Indenture otherwise expressly provided or unless the context otherwise requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section and shall include the plural as well as the singular. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939, as amended, or that are by reference in such Act defined in the Securities Act of 1933, as amended (except as herein otherwise expressly provided or unless the context otherwise requires), shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of the execution of this instrument.

“Authenticating Agent” means an authenticating agent with respect to all or any of the series of Securities appointed with respect to all or any series of the Securities by the Trustee pursuant to Section 2.10.

“Bankruptcy Law” means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

“Board of Directors” means the Board of Directors of the Company or any duly authorized committee of such Board.

“Board Resolution” means a copy of a resolution certified by the 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 such certification.

“Business Day” means, with respect to any series of Securities, any day other than a day on which Federal or State banking institutions in the Borough of Manhattan, the City and State of New York, are authorized or obligated by law, executive order or regulation to close.

“Certificate” means a certificate signed by the principal executive officer, the principal financial officer or the principal accounting officer of the Company. The Certificate need not comply with the provisions of Section 13.07.

“Commission” means the Securities and Exchange Commission.

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

“Corporate Trust Office” means the office of the Trustee at which, at any particular time, its corporate trust business shall be principally administered, which office at the date hereof is located at [], except that whenever a provision herein refers to an office or agency of the Trustee in the Borough of Manhattan, the City and State of New York, such office is located, at the date hereof, at [].

“Custodian” means any receiver, trustee, assignee, liquidator, or similar official under any Bankruptcy Law.

“Default” means an event which is, or after notice or lapse of time, or both, would constitute an Event of Default.

“Depository” means, with respect to Securities of any series, for which the Company shall determine that such Securities will be issued as a Global Security, The Depository Trust Company, New York, New York, another clearing agency, or any successor registered as a clearing agency under the Exchange Act, or other applicable statute or regulation, which, in each case, shall be designated by the Company pursuant to either Section 2.01 or Section 2.11.

“Event of Default” means, with respect to Securities of a particular series, any event specified in Section 6.01, continued for the period of time, if any, therein designated.

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Global Security” means, with respect to any series of Securities, a Security executed by the Company and delivered by the Trustee to the Depository or pursuant to the Depository’s instruction, all in accordance with this Indenture, which shall be registered in the name of the Depository or its nominee.

“Governmental Obligations” means securities that are (i) direct obligations of the United States of America 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 of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America that, in either case, are non-callable at the option of the issuer thereof, and shall also include a depository receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act of 1933, as amended) as custodian with respect to any such Governmental Obligation or a specific payment of principal of or interest on any such Governmental Obligation held by such custodian for the account of the holder of such depository receipt; provided, however, 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 Governmental Obligation or the specific payment of principal of or interest on the Governmental Obligation evidenced by such depository receipt.

“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.

“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 in accordance with the terms hereof.

“Interest Payment Date,” when used with respect to any installment of interest on a Security of a particular series, means the date specified in such Security or in a Board Resolution or in an indenture supplemental hereto with respect to such series as the fixed date on which an installment of interest with respect to Securities of that series is due and payable.

“Officers’ Certificate” means a certificate signed by the President or a Vice President and by the Chief Financial Officer, Vice President of Finance, the Treasurer or an Assistant Treasurer or the Controller or an Assistant Controller or the Secretary or an Assistant Secretary of the Company that is delivered to the Trustee in accordance with the terms hereof. Certificate shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

“Opinion of Counsel” means a written opinion of counsel, who may be counsel to the Company (and may include directors or employees of the Company) and which opinion is acceptable to the Trustee which acceptance shall not be unreasonably withheld.

“Outstanding”, when used with reference to Securities of any series, means, subject to the provisions of Section 8.04, as of any particular time, all Securities of that series theretofore authenticated and delivered by the Trustee under this Indenture, except (a) Securities theretofore canceled by the Trustee or any paying agent, or delivered to the Trustee or any paying agent for cancellation or that have previously been canceled; (b) Securities or portions thereof for the payment or redemption of which moneys or Governmental Obligations in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Company) or shall have been set aside and segregated in trust by the Company (if the Company shall act as its own paying agent); provided, however, that if such Securities or portions of such Securities are to be redeemed prior to the maturity thereof, notice of such redemption

shall have been given as in Article III provided, or provision satisfactory to the Trustee shall have been made for giving such notice; and (c) Securities in lieu of or in substitution for which other Securities shall have been authenticated and delivered pursuant to the terms of Section 2.07.

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

“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 2.07 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.

“Responsible Officer,” when used with respect to the Trustee, means any officer of the Trustee, including any vice president, assistant vice president, secretary, assistant secretary, the treasurer, any assistant treasurer, the managing director or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of such officer’s knowledge of and familiarity with the particular subject.

“Securities” means the debt Securities authenticated and delivered under this Indenture.

“Security Register” has the meaning specified in Section 2.05.

“Security Registrar” has the meaning specified in Section 2.05.

“Securityholder,” “holder of Securities,” “registered holder,” or other similar term, means the Person or Persons in whose name or names a particular Security shall be registered in the Security Register.

“Subsidiary” means, with respect to any Person, (i) any corporation at least a majority of whose outstanding Voting Stock shall at the time be owned, directly or indirectly, by such Person or by one or more of its Subsidiaries or by such Person and one or more of its Subsidiaries, (ii) any general partnership, joint venture or similar entity, at least a majority of whose outstanding partnership or similar interests shall at the time be owned by such Person, or by one or more of its Subsidiaries, or by such Person and one or more of its Subsidiaries and (iii) any limited partnership of which such Person or any of its Subsidiaries is a general partner.

“Trustee” means the Person named as the “Trustee” in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Trustee” shall mean such successor Trustee. The term “Trustee” as used with respect to a particular series of the Securities shall mean the trustee with respect to that series.

“Trust Indenture Act” means the Trust Indenture Act of 1939, as amended, subject to the provisions of Sections 9.01, 9.02, and 10.01, as in effect at the date of execution of this instrument; provided, however, that in the event the Trust Indenture Act is amended after such date, Trust Indenture Act means, to the extent required by such amendment, the Trust Indenture Act of 1939, as so amended, or any successor statute.

“Voting Stock,” as applied to any Person, means shares, interests, participations or other equivalents in the equity interest (however designated) in such Person having ordinary voting power for the election of a majority of the directors (or the equivalent) of such Person, other than shares, interests, participations or other equivalents having such power only by reason of the occurrence of a contingency.

ARTICLE II

ISSUE, DESCRIPTION, TERMS, EXECUTION, REGISTRATION AND EXCHANGE OF SECURITIES

SECTION 2.01 Designation and Terms of Securities.

- (a) The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series up to the aggregate principal amount of Securities of that series from time to time authorized by or pursuant to a Board Resolution of the Company or pursuant to one or more indentures supplemental hereto. Prior to the initial issuance of Securities of a given series, there shall be established in or pursuant to a Board Resolution of the Company, and set forth in an Officers' Certificate of the Company, or established in one or more indentures supplemental hereto:
- (1) the title of the Security of the series (which shall distinguish the Securities of the series from all other Securities);
 - (2) the aggregate principal amount of the Securities of such series initially to be issued and any limit upon the aggregate principal amount of the Securities of that series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of that series);
 - (3) the currency or units based on or relating to currencies in which debt securities of such series are denominated and the currency or units in which principal or interest or both will or may be payable;
 - (4) the date or dates on which the principal of the Securities of the series is payable and the place(s) of payment;
 - (5) the rate or rates at which the Securities of the series shall bear interest or the manner of calculation of such rate or rates, if any;
 - (6) the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest will be payable or the manner of determination of such Interest Payment Dates, the place(s) of payment, and the record date for the determination of holders to whom interest is payable on any such Interest Payment Dates or the method for determining such dates;
 - (7) the right, if any, to extend the interest payment periods or to defer the payment of interest and the duration of such extension;
 - (8) the period or periods within which, the price or prices at which and the terms and conditions upon which, Securities of the series may be redeemed, in whole or in part, at the option of the Company;
 - (9) the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund or analogous provisions (including payments made in cash in satisfaction of future sinking fund obligations) or at the option of a holder thereof and the period or periods within which, the price or prices at which, and the terms and conditions upon which, Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;
 - (10) whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

- (11) the form of the Securities of the series including the form of the Certificate of Authentication for such series;
- (12) if other than denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, the denominations in which the Securities of the series shall be issuable;
- (13) any and all other terms with respect to such series (which terms shall not be inconsistent with the terms of this Indenture, as amended by any supplemental indenture) including any terms which may be required by or advisable under United States laws or regulations or advisable in connection with the marketing of Securities of that series;
- (14) whether the Securities are issuable as a Global Security and, in such case, the identity of the Depository for such series;
- (15) whether the Securities will be convertible into shares of common stock or other securities of the Company and, if so, the terms and conditions upon which such Securities will be so convertible, including the conversion price and the conversion period;
- (16) if other than the principal amount thereof, the portion of the principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.01; and
- (17) any additional or different Events of Default or restrictive covenants provided for with respect to the Securities of the series.

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to any such Board Resolution or in any indentures supplemental hereto.

If any of the terms of the series are established by action taken pursuant to a Board Resolution of the Company, a copy of an appropriate record of such action shall be certified by the Secretary or an Assistant Secretary of the Company and delivered to the Trustee at or prior to the delivery of the Officers' Certificate of the Company setting forth the terms of the series.

Securities of any particular series may be issued at various times, with different dates on which the principal or any installment of principal is payable, with different rates of interest, if any, or different methods by which rates of interest may be determined, with different dates on which such interest may be payable and with different redemption dates.

SECTION 2.02 Form of Securities and Trustee's Certificate.

The Securities of any series and the Trustee's certificate of authentication to be borne by such Securities shall be substantially of the tenor and purport as set forth in one or more indentures supplemental hereto or as provided in a Board Resolution of the Company and as set forth in an Officers' Certificate of the Company and may have such letters, numbers or other marks of identification or designation and such legends or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this Indenture, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which Securities of that series may be listed, or to conform to usage.

SECTION 2.03 Denominations: Provisions for Payment.

The Securities shall be issuable as registered Securities and in the denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, subject to Section 2.01(a)(12). The Securities of a particular series shall bear interest payable on the dates and at the rate specified with respect to that series. The principal of and the interest on the Securities of any series, as well as any premium thereon in case of redemption thereof prior to maturity, shall be payable in the coin or currency of the United States of America that at the time is legal tender for public and private debt, at the

office or agency of the Company maintained for that purpose in the Borough of Manhattan, the City and State of New York. Each Security shall be dated the date of its authentication. Interest on the Securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

The interest installment on any Security that is payable, and is punctually paid or duly provided for, on any Interest Payment Date for Securities of that series shall be paid to the Person in whose name said Security (or one or more Predecessor Securities) is registered at the close of business on the regular record date for such interest installment. In the event that any Security of a particular series or portion thereof is called for redemption and the redemption date is subsequent to a regular record date with respect to any Interest Payment Date and prior to such Interest Payment Date, interest on such Security will be paid upon presentation and surrender of such Security as provided in Section 3.03.

Any interest on any Security that is payable, but is not punctually paid or duly provided for, on any Interest Payment Date for Securities of the same series (herein called "Defaulted Interest") shall forthwith cease to be payable to the registered holder on the relevant regular record date by virtue of having been such holder; and such Defaulted Interest shall be paid by the Company, at its election, as provided in clause (1) or clause (2) below:

- (1) The Company may make payment of any Defaulted Interest on Securities to the Persons in whose names such Securities (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 notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security and the date of the proposed payment, and at the same time 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 provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall not be more than 15 nor 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 Securityholder at his or her address as it appears in the Security 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 mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered on such special record date.
- (2) The Company may make payment of any Defaulted Interest on any Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such 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, such manner of payment shall be deemed practicable by the Trustee.

Unless otherwise set forth in a Board Resolution of the Company or one or more indentures supplemental hereto establishing the terms of any series of Securities pursuant to Section 2.01 hereof, the term "regular record date" as used in this Section with respect to a series of Securities with respect to any Interest Payment Date for such series shall mean either the fifteenth day of the month immediately preceding the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the first day of a month, or the last day of the month immediately preceding the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the fifteenth day of a month, whether or not such date is a Business Day.

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

SECTION 2.04 Execution and Authentications.

The Securities shall be signed on behalf of the Company by its President, or one of its Vice Presidents, or its Treasurer, or one of its Assistant Treasurers, or its Secretary, or one of its Assistant Secretaries, under its corporate seal attested by its Secretary or one of its Assistant Secretaries. Signatures may be in the form of a manual or facsimile signature. The Company may use the facsimile signature of any Person who shall have been a President or Vice President thereof, or of any Person who shall have been a Treasurer or Assistant Treasurer thereof, or of any Person who shall have been a Secretary or Assistant Secretary thereof, notwithstanding the fact that at the time the Securities shall be authenticated and delivered or disposed of such Person shall have ceased to be the President or a Vice President, the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, of the Company. The seal of the Company may be in the form of a facsimile of such seal and may be impressed, affixed, imprinted or otherwise reproduced on the Securities. The Securities may contain such notations, legends or endorsements required by law, stock exchange rule or usage. Each Security shall be dated the date of its authentication.

A Security shall not be valid or obligatory for any purpose and shall not be entitled to any benefit under this Indenture, in each case, until authenticated with a certificate of authentication manually signed by an authorized signatory of the Trustee, or by an Authenticating Agent. Such certificate shall be conclusive evidence, and the only evidence, that the Security so authenticated has been duly authenticated and delivered hereunder and that the Security is entitled to the benefits of this Indenture. At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a written order of the Company for the authentication and delivery of such Securities, signed by its President or any Vice President and its Secretary or any Assistant Secretary, and the Trustee in accordance with such written 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 7.01) shall be fully protected in relying upon, an Opinion of Counsel stating that the form and terms thereof have been established in conformity with the provisions of this Indenture.

The Trustee shall not be required to authenticate such Securities if the issue of such Securities pursuant to this Indenture will affect the Trustee's own rights, duties or immunities under the Securities and this Indenture or otherwise in a manner that is not reasonably acceptable to the Trustee.

SECTION 2.05 Registration of Transfer and Exchange.

- (a) Securities of any series may be exchanged upon presentation thereof at the office or agency of the Company designated for such purpose in the Borough of Manhattan, the City and State of New York, for other Securities of such series of authorized denominations, and for a like aggregate principal amount, upon payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, all as provided in this Section. In respect of any Securities so surrendered for exchange, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in exchange therefor the Security or Securities of the same series that the Securityholder making the exchange shall be entitled to receive, bearing numbers not contemporaneously outstanding.
- (b) The Company shall keep, or cause to be kept, at its office or agency designated for such purpose in the Borough of Manhattan, the City and State of New York, or such other location designated by the Company a register or registers (herein referred to as the "Security Register") in which, subject to such reasonable regulations as it may prescribe, the Company shall register the Securities and the transfers of Securities as in this Article provided and which at all reasonable times shall be open for inspection by the Trustee. The registrar for the purpose of registering Securities and transfer of

Securities as herein provided shall be appointed as authorized by Board Resolution (the "Security Registrar").

Upon surrender for transfer of any Security at the office or agency of the Company designated for such purpose, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in the name of the transferee or transferees a new Security or Securities of the same series as the Security presented for a like aggregate principal amount.

All Securities presented or surrendered for exchange or registration of transfer, as provided in this Section, shall be accompanied (if so required by the Company or the Security Registrar) by a written instrument or instruments of transfer, in form satisfactory to the Company or the Security Registrar, duly executed by the registered holder or by such holder's duly authorized attorney in writing.

- (c) No service charge shall be made for any exchange or registration of transfer of Securities, or issue of new Securities in case of partial redemption of any series, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, other than exchanges pursuant to Section 2.06, Section 3.03(b) and Section 9.04 not involving any transfer.
- (d) The Company shall not be required (i) to issue, exchange or register the transfer of any Securities during a period beginning at the opening of business 15 days before the day of the mailing of a notice of redemption of less than all the Outstanding Securities of the same series and ending at the close of business on the day of such mailing, nor (ii) to register the transfer of or exchange any Securities of any series or portions thereof called for redemption. The provisions of this Section 2.05 are, with respect to any Global Security, subject to Section 2.11 hereof.

SECTION 2.06 Temporary Securities.

Pending the preparation of definitive Securities of any series, the Company may execute, and the Trustee shall authenticate and deliver, temporary Securities (printed, lithographed or typewritten) of any authorized denomination. Such temporary Securities shall be substantially in the form of the definitive Securities in lieu of which they are issued, but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Company. Every temporary Security of any series shall be executed by the Company and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities of such series. Without unnecessary delay the Company will execute and will furnish definitive Securities of such series and thereupon any or all temporary Securities of such series may be surrendered in exchange therefor (without charge to the holders), at the office or agency of the Company designated for the purpose in the Borough of Manhattan, the City and State of New York, and the Trustee shall authenticate and such office or agency shall deliver in exchange for such temporary Securities an equal aggregate principal amount of definitive Securities of such series, unless the Company advises the Trustee to the effect that definitive Securities need not be executed and furnished until further notice from the Company. Until so exchanged, the temporary Securities of such series shall be entitled to the same benefits under this Indenture as definitive Securities of such series authenticated and delivered hereunder.

SECTION 2.07 Mutilated, Destroyed, Lost or Stolen Securities.

In case any temporary or definitive Security shall become mutilated or be destroyed, lost or stolen, the Company (subject to the next succeeding sentence) shall execute, and upon the Company's request the Trustee (subject as aforesaid) shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substituted Security shall furnish to the Company and the Trustee such security or indemnity as may be required by them to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company and the Trustee evidence to their satisfaction of the destruction, loss or theft of the applicant's Security and of the ownership thereof. The Trustee may authenticate any such substituted Security and deliver the same upon the written request or authorization of any officer of the Company. Upon the issuance of any substituted Security, 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) connected therewith. In case any Security that has matured or is about to mature shall become mutilated or be destroyed, lost or stolen, the Company may, instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Security) if the applicant for such payment shall furnish to the Company and the Trustee such security or indemnity as they may require to save them harmless, and, in case of destruction, loss or theft, evidence to the satisfaction of the Company and the Trustee of the destruction, loss or theft of such Security and of the ownership thereof.

Every replacement Security issued pursuant to the provisions of this Section shall constitute an additional contractual obligation of the Company whether or not the mutilated, destroyed, lost or stolen Security shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities of the same series duly issued hereunder. All Securities shall be held and owned upon the express condition that the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities, and shall preclude (to the extent lawful) any and all other rights or remedies, notwithstanding any law or statute existing or hereafter enacted to the contrary with respect to the replacement or payment of negotiable instruments or other securities without their surrender.

SECTION 2.08 Cancellation.

All Securities surrendered for the purpose of payment, redemption, exchange or registration of transfer shall, if surrendered to the Company or any paying agent, be delivered to the Trustee for cancellation, or, if surrendered to the Trustee, shall be cancelled by it, and no Securities shall be issued in lieu thereof except as expressly required or permitted by any of the provisions of this Indenture. On request of the Company at the time of such surrender, the Trustee shall deliver to the Company canceled Securities held by the Trustee. In the absence of such request the Trustee may dispose of canceled Securities in accordance with its standard procedures and deliver a certificate of disposition to the Company. If the Company shall otherwise acquire any of the Securities, however, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

SECTION 2.09 Benefits of Indenture.

Nothing in this Indenture or in the Securities, express or implied, shall give or be construed to give to any Person, other than the parties hereto and the holders of the Securities any legal or equitable right, remedy or claim under or in respect of this Indenture, or under any covenant, condition or provision herein contained; all such covenants, conditions and provisions being for the sole benefit of the parties hereto and of the holders of the Securities.

SECTION 2.10 Authenticating Agent.

So long as any of the Securities of any series remain Outstanding there may be an Authenticating Agent for any or all such series of Securities which the Trustee shall have the right to appoint. Said Authenticating Agent shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon exchange, 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. All references in this Indenture to the authentication of Securities by the Trustee shall be deemed to include authentication by an Authenticating Agent for such series. Each Authenticating Agent shall be acceptable to the Company and shall be a corporation that has a

combined capital and surplus, as most recently reported or determined by it, sufficient under the laws of any jurisdiction under which it is organized or in which it is doing business to conduct a trust business, and that is otherwise authorized under such laws to conduct such business and is subject to supervision or examination by Federal or State authorities. If at any time any Authenticating Agent shall cease to be eligible in accordance with these provisions, it shall resign immediately.

Any Authenticating Agent may at any time resign by giving written notice of resignation to the Trustee and to the Company. The Trustee may at any time (and upon request by the Company shall) terminate the agency of any Authenticating Agent by giving written notice of termination to such Authenticating Agent and to the Company. Upon resignation, termination or cessation of eligibility of any Authenticating Agent, the Trustee may appoint an eligible successor Authenticating Agent acceptable to the Company. Any successor Authenticating Agent, upon acceptance of its appointment hereunder, shall become vested with all the rights, powers and duties of its predecessor hereunder as if originally named as an Authenticating Agent pursuant hereto.

SECTION 2.11 Global Securities

- (a) If the Company shall establish pursuant to Section 2.01 that some or all of the Securities of a particular series are to be issued as a Global Security, then the Company shall execute and the Trustee shall, in accordance with Section 2.04, authenticate and deliver, a Global Security that (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, the Outstanding Securities of such series which are to be issued as a Global Security, (ii) shall be registered in the name of the Depository or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction and (iv) shall bear a legend substantially to the following effect: "Except as otherwise provided in Section 2.11 of the Indenture, this Security may be transferred, in whole but not in part, only to another nominee of the Depository or to a successor Depository or to a nominee of such successor Depository."
- (b) Notwithstanding the provisions of Section 2.05, the Global Security of a series may be transferred, in whole but not in part and in the manner provided in Section 2.05, only to another nominee of the Depository for such series, or to a successor Depository for such series selected or approved by the Company or to a nominee of such successor Depository.
- (c) If at any time the Depository for a series of the Securities notifies the Company that it is unwilling or unable to continue as Depository for such series or if at any time the Depository for such series shall no longer be registered or in good standing under the Exchange Act, or other applicable statute or regulation, and a successor Depository for such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such condition, as the case may be, this Section 2.11 shall no longer be applicable to the Securities of such series and the Company will execute, and subject to Section 2.05, the Trustee will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. In addition, the Company may at any time determine that the Securities of any series shall no longer be represented by a Global Security and that the provisions of this Section 2.11 shall no longer apply to the Securities of such series. In such event the Company will execute and subject to Section 2.05, the Trustee, upon receipt of an Officers' Certificate evidencing such determination by the Company, will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. Upon the exchange of the Global Security for such Securities in definitive registered form without coupons, in authorized denominations, the Global Security shall be canceled by the Trustee. Such Securities in definitive registered form issued in exchange for the Global Security pursuant to this Section 2.11(c) shall be registered in such names and in such authorized denominations as the Depository, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct

the Trustee. The Trustee shall deliver such Securities to the Depository for delivery to the Persons in whose names such Securities are so registered.

ARTICLE III

REDEMPTION OF SECURITIES AND SINKING FUND PROVISIONS

SECTION 3.01 Redemption.

The Company may redeem the Securities of any series issued hereunder on and after the dates and in accordance with the terms established for such series pursuant to Section 2.01 hereof.

SECTION 3.02 Notice of Redemption.

- (a) In case the Company shall desire to exercise such right to redeem all or, as the case may be, a portion of the Securities of any series in accordance with the right reserved so to do, the Company shall, or shall cause the Trustee to, give notice of such redemption to holders of the Securities of such series to be redeemed by mailing, first class postage prepaid, a notice of such redemption not less than 30 days and not more than 90 days before the date fixed for redemption of that series to such holders at their last addresses as they shall appear upon the Security Register unless a shorter period is specified in the Securities to be redeemed. Any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the registered holder receives the notice. In any case, failure duly to give such notice to the holder of any Security of any series designated for redemption in whole or in part, or any defect in the notice, shall not affect the validity of the proceedings for the redemption of any other Securities of such series or any other series. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officers' Certificate evidencing compliance with any such restriction.

Each such notice of redemption shall specify the date fixed for redemption and the redemption price at which Securities of that series are to be redeemed, and shall state that payment of the redemption price of such Securities to be redeemed will be made at the office or agency of the Company in the Borough of Manhattan, the City and State of New York, upon presentation and surrender of such Securities, that interest accrued to the date fixed for redemption will be paid as specified in said notice, that from and after said date interest will cease to accrue and that the redemption is for a sinking fund, if such is the case. If less than all the Securities of a series are to be redeemed, the notice to the holders of Securities of that series to be redeemed in whole or in part shall specify the particular Securities to be so redeemed. In case any Security is to be redeemed in part only, the notice that relates to such Security shall state the portion of the principal amount thereof to be redeemed, and shall state that on and after the redemption date, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

- (b) If less than all the Securities of a series are to be redeemed, the Company shall give the Trustee at least 30 days' notice in advance of the date fixed for redemption as to the aggregate principal amount of Securities of the series to be redeemed, and thereupon the Trustee shall select, by lot or in such other manner as it shall deem appropriate and fair in its discretion and that may provide for the selection of a portion or portions (equal to one thousand U.S. dollars (\$1,000) or any integral multiple thereof) of the principal amount of such Securities of a denomination larger than \$1,000, the Securities to be redeemed and shall thereafter promptly notify the Company in writing of the numbers of the Securities to be redeemed, in whole or in part. The Company may, if and whenever it shall so elect, by delivery of instructions signed on its behalf by its President or any Vice President, instruct the Trustee or any paying agent to call all or any part of the Securities of a particular series for redemption and to give notice of redemption in the manner set forth in this Section, such notice to be

in the name of the Company or its own name as the Trustee or such paying agent may deem advisable. In any case in which notice of redemption is to be given by the Trustee or any such paying agent, the Company shall deliver or cause to be delivered to, or permit to remain with, the Trustee or such paying agent, as the case may be, such Security Register, transfer books or other records, or suitable copies or extracts therefrom, sufficient to enable the Trustee or such paying agent to give any notice by mail that may be required under the provisions of this Section.

SECTION 3.03 Payment Upon Redemption.

- (a) If the giving of notice of redemption shall have been completed as above provided, the Securities or portions of Securities of the series to be redeemed specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption and interest on such Securities or portions of Securities shall cease to accrue on and after the date fixed for redemption, unless the Company shall default in the payment of such redemption price and accrued interest with respect to any such Security or portion thereof. On presentation and surrender of such Securities on or after the date fixed for redemption at the place of payment specified in the notice, said Securities shall be paid and redeemed at the applicable redemption price for such series, together with interest accrued thereon to the date fixed for redemption (but if the date fixed for redemption is an interest payment date, the interest installment payable on such date shall be payable to the registered holder at the close of business on the applicable record date pursuant to Section 2.03).
- (b) Upon presentation of any Security of such series that is to be redeemed in part only, the Company shall execute and the Trustee shall authenticate and the office or agency where the Security is presented shall deliver to the holder thereof, at the expense of the Company, a new Security of the same series of authorized denominations in principal amount equal to the unredeemed portion of the Security so presented.

SECTION 3.04 Sinking Fund.

The provisions of Sections 3.04, 3.05 and 3.06 shall be applicable to any sinking fund for the retirement of Securities of a series, except as otherwise specified as contemplated by Section 2.01 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 3.05. 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 3.05 Satisfaction of Sinking Fund Payments with Securities.

The Company (i) may deliver Outstanding Securities of a series (other than any Securities previously called for redemption) and (ii) may apply as a credit Securities of a series that 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 3.06 Redemption of Securities for Sinking Fund.

Not less than 45 days prior to each sinking fund payment date for any series of Securities, the Company will deliver to the Trustee an Officers' Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of the series, the portion thereof, if any, that is to be satisfied by delivering and crediting Securities of that series pursuant to Section 3.05 and the basis for such credit and will, together with such Officers' Certificate, 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 3.02 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 3.02. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 3.03.

ARTICLE IV

COVENANTS

SECTION 4.01 Payment of Principal, Premium and Interest.

The Company will duly and punctually pay or cause to be paid the principal of (and premium, if any) and interest on the Securities of that series at the time and place and in the manner provided herein and established with respect to such Securities.

SECTION 4.02 Maintenance of Office or Agency.

So long as any series of the Securities remain Outstanding, the Company agrees to maintain an office or agency in the Borough of Manhattan, the City and State of New York, with respect to each such series and at such other location or locations as may be designated as provided in this Section 4.02, where (i) Securities of that series may be presented or surrendered for payment, (ii) Securities of that series may be presented as herein above authorized for registration of transfer and exchange, and (iii) notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be given or served, such designation to continue with respect to such office or agency until the Company shall, by written notice signed by its President or a Vice President and delivered to the trustee, designate some other office or agency for such purposes or any of them. 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, 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, notices and demands.

SECTION 4.03 Paying Agents.

- (a) If the Company shall appoint one or more paying agents for all or any series of the Securities, other than the Trustee, the Company will cause each such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:
- (1) that it will hold all sums held by it as such agent for the payment of the principal of (and premium, if any) or interest on the Securities of that series (whether such sums have been paid to it by the Company or by any other obligor of such Securities) in trust for the benefit of the Persons entitled thereto;
 - (2) that it will give the Trustee notice of any failure by the Company (or by any other obligor of such Securities) to make any payment of the principal of (and premium, if any) or interest on the Securities of that series when the same shall be due and payable;
 - (3) that it will, at any time during the continuance of any failure referred to in the preceding paragraph (a)(2) above, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent; and

- (4) that it will perform all other duties of paying agent as set forth in this Indenture.
- (b) If the Company shall act as its own paying agent with respect to any series of the Securities, it will on or before each due date of the principal of (and premium, if any) or interest on Securities of that series, set aside, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient with monies held by all other paying agents to pay such principal (and premium, if any) or interest so becoming due on Securities of that series until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of such action, or any failure (by it or any other obligor on such Securities) to take such action. Whenever the Company shall have one or more paying agents for any series of Securities, it will, prior to each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with the paying agent a sum sufficient to pay the principal (an premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of this action or failure so to act.
- (c) Notwithstanding anything in this Section to the contrary, (i) the agreement to hold sums in trust as provided in this Section is subject to the provisions of Section 11.05, and (ii) the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or 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 terms and conditions 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.

SECTION 4.04 Appointment to Fill Vacancy in Office of Trustee.

The Company, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 7.10, a Trustee, so that there shall at all times be a Trustee hereunder.

SECTION 4.05 Compliance with Consolidation Provisions.

The Company will not, while any of the Securities remain Outstanding, consolidate with or merge into any other Person, in either case where the Company is not the survivor of such transaction, or sell or convey all or substantially all of its property to any other company unless the provisions of Article X hereof are complied with.

ARTICLE V

SECURITYHOLDERS' LISTS AND REPORTS BY THE COMPANY AND THE TRUSTEE

SECTION 5.01 Company to Furnish Trustee Names and Addresses of Securityholders.

If the Company is not the Security Register, the Company will furnish or use reasonable efforts to cause to be furnished to the Trustee (a) on each regular record date (as defined in Section 2.03) a list, in such form as the Trustee may reasonably require, of the names and addresses of the holders of each series of Securities as of such regular record date, provided that the Company shall not be obligated to furnish or cause to furnish such list at any time that the list shall not differ in any respect from the most recent list furnished to the Trustee by the Company and (b) at such other times as the Trustee may request in writing within 30 days after the receipt by the Company of any such request, a list of similar form and content as of a date not more than 15 days prior to the time such list is furnished; provided, however, that, in either case, no such list need be furnished for any series for which the Trustee shall be the Security Registrar.

SECTION 5.02 Preservation of Information; Communications with Securityholders.

- (a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Securities contained in the most recent list furnished to it as provided in Section 5.01 and as to the names and addresses of holders of Securities received by the Trustee in its capacity as Security Registrar (if acting in such capacity) and shall otherwise comply with Section 312(a) of the Trust Indenture Act.
- (b) The Trustee may destroy any list furnished to it as provided in Section 5.01 upon receipt of a new list so furnished.
- (c) Securityholders may communicate as provided in Section 312(b) of the Trust Indenture Act with other Securityholders with respect to their rights under this Indenture or under the Securities.

SECTION 5.03 Reports by the Company.

- (a) The Company covenants and agrees to file with the Trustee, within 15 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) that the Company may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; 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 the rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports that may be required pursuant to Section 13 of the Exchange Act, 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; provided, however, the Company shall not be required to deliver to the Trustee any materials for which the Company has sought and received confidential treatment by the Commission. The Company also shall comply with the other provisions of Section 314(a) of the Trust Indenture Act.
- (b) The Company covenants and agrees 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.
- (c) The Company covenants and agrees to transmit by mail, first class postage prepaid, or reputable over-night delivery service that provides for evidence of receipt, to the Securityholders, as their names and addresses appear upon the Security Register, within 30 days after the filing thereof with the Trustee, such summaries of any information, documents and reports required to be filed by the Company pursuant to subsections (a) and (b) of this Section as may be required by rules and regulations prescribed from time to time by the Commission.

SECTION 5.04 Reports by the Trustee.

- (a) The Trustee shall transmit to holders as provided in Section 313 of the Trust Indenture Act such reports concerning the Trustee and its actions under this Indenture as may be required by Section 313 of the Trust Indenture Act at the times and in the manner provided by the Trust Indenture Act.
- (b) A copy of each such report shall, at the time of such transmission to Securityholders, be filed by the Trustee with the Company, with each stock exchange upon which any Securities are listed (if so listed) and, if required by Section 313 of the Trust Indenture Act, also with the Commission. The Company agrees to notify the Trustee when any Securities become listed on any stock exchange.

ARTICLE VI

REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

SECTION 6.01 Events of Default.

- (a) Whenever used herein with respect to Securities of a particular series, “Event of Default” means any one or more of the following events that has occurred and is continuing:
- (1) the Company defaults in the payment of any installment of interest upon any of the Securities of that series, as and when the same shall become due and payable, and continuance of such default for a period of 90 days; provided, however, that a valid extension of an interest payment period by the Company in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of interest for this purpose;
 - (2) the Company defaults in the payment of the principal of (or premium, if any, on) any of the Securities of that series as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to that series; provided, however, that a valid extension of the maturity of such Securities in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of principal or premium, if any;
 - (3) the Company fails to observe or perform any other of its covenants or agreements with respect to that series contained in this Indenture or otherwise established with respect to that series of Securities pursuant to Section 2.01 hereof (other than a covenant or agreement that has been expressly included in this Indenture solely for the benefit of one or more series of Securities other than such series) for a period of 90 days after the date on which written notice of such failure, requiring the same to be remedied and stating that such notice is a “Notice of Default” hereunder, shall have been given to the Company by the Trustee, by registered or certified mail, or to the Company and the Trustee by the holders of not less than a majority in principal amount of the Securities of that series at the time Outstanding;
 - (4) the Company pursuant to or within the meaning of any Bankruptcy Law (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property or (iv) makes a general assignment for the benefit of its creditors; or
 - (5) a court of competent jurisdiction enters an order under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company for all or substantially all of its property, or (iii) orders the liquidation of the Company, and the order or decree remains unstayed and in effect for 90 consecutive days.
- (b) In each and every such case, unless the principal of all the Securities of that series shall have already become due and payable, either the Trustee or the holders of not less than a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder, by notice in writing to the Company (and to the Trustee if given by such Securityholders), may declare the principal (or, if any Securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series pursuant to Section 2.01(a)(16)) of (and premium, if any, on) and

accrued and unpaid interest, if any, on all the Securities of that series to be due and payable

immediately, and upon any such declaration the same shall become and shall be immediately due and payable.

- (c) At any time after the principal of the Securities of that series shall have been so declared due and payable, and before a judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the holders of a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder (or, by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting), by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if: (i) the Company has paid or deposited with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of that series and the principal of (and premium, if any, on) any and all Securities of that series that shall have become due otherwise than by acceleration and (ii) any and all Events of Default under this Indenture with respect to such series, other than the nonpayment of principal of (and premium, if any, on) and accrued and unpaid interest, if any, on Securities of that series that shall have become due solely because of such acceleration, shall have been remedied, cured or waived as provided in Section 6.06. No such rescission and annulment shall extend to or shall affect any subsequent default or impair any right consequent thereon.
- (d) In case the Trustee shall have proceeded to enforce any right with respect to Securities of that series under this Indenture and such proceedings shall have been discontinued or abandoned because of such rescission or annulment or for any other reason or shall have been determined adversely to the Trustee, then and in every such case, subject to any determination in such proceedings, the Company, and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Company and the Trustee shall continue as though no such proceedings had been taken.

SECTION 6.02 Collection of Indebtedness and Suits for Enforcement by Trustee.

- (a) The Company covenants that (1) in case it shall default in the payment of any installment of interest on any of the Securities of a series, or any payment required by any sinking or analogous fund established with respect to that series as and when the same shall have become due and payable, and such default shall have continued for a period of 90 Business Days, or (2) in case it shall default in the payment of the principal of (or premium, if any, on) any of the Securities of a series when the same shall have become due and payable, whether upon maturity of the Securities of a series or upon redemption or upon declaration or otherwise, then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Securities of that series, the whole amount that then shall have become due and payable on all such Securities for principal (and premium, if any) or interest, or both, as the case may be, with interest upon the overdue principal (and premium, if any) and (to the extent that payment of such interest is enforceable under applicable law) upon overdue installments of interest at the rate per annum expressed in the Securities of that series; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and the amount payable to the Trustee under Section 7.06.
- (b) If the Company shall fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or other obligor upon the Securities of that series and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Company or other obligor upon the Securities of that series, wherever situated.

- (c) In case of any receivership, insolvency, liquidation, bankruptcy, reorganization, readjustment, arrangement, composition or judicial proceedings affected the Company, or its creditors or property, the Trustee shall have power to intervene in such proceedings and take any action therein that may be permitted by the court and shall (except as may be otherwise provided by law) be entitled to file such proofs of claim and other papers and documents as may be necessary or advisable in order to have the claims of the Trustee and of the holders of Securities of such series allowed for the entire amount due and payable by the Company under this Indenture at the date of institution of such proceedings and for any additional amount that may become due and payable by the Company after such date, and to collect and receive any moneys or other property payable or deliverable on any such claim, and to distribute the same after the deduction of the amount payable to the Trustee under Section 7.06; and any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized by each of the holders of Securities of such series to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to such Securityholders, to pay to the Trustee any amount due it under Section 7.06.
- (d) All rights of action and of asserting claims under this Indenture, or under any of the terms established with respect to Securities of that series, may be enforced by the Trustee without the possession of any of such Securities, or the production thereof at any trial or other proceeding relative thereto, and any such suit or proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for payment to the Trustee of any amounts due under Section 7.06, be for the ratable benefit of the holders of the Securities of such series.

In case of an Event of Default hereunder, the Trustee may in its discretion proceed to protect and enforce the rights vested in it by this Indenture by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any of such rights, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture, or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Nothing contained herein shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of that series or the rights of any holder thereof or to authorize the Trustee to vote in respect of the claim of any Securityholder in any such proceeding.

SECTION 6.03 Application of Moneys Collected.

Any moneys collected by the Trustee pursuant to this Article with respect to a particular series of Securities shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such moneys on account of principal (or premium, if any) or interest, upon presentation of the Securities of that series, and notation thereon the payment, if only partially paid, and upon surrender thereof if fully paid:

FIRST: To the payment of costs and expenses of collection and of all amounts payable to the Trustee under Section 7.06; and

SECOND: To the payment of the amounts then due and unpaid upon Securities of such series for principal (and premium, if any) and interest, in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal (and premium, if any) and interest, respectively.

SECTION 6.04 Limitation on Suits.

No holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless (i) such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof with respect to the Securities

of such series specifying such Event of Default, as hereinbefore provided; (ii) the holders of not less than a majority in aggregate principal amount of the Securities of such series then Outstanding shall have made written request upon the Trustee to institute such action, suit or proceeding in its own name as trustee hereunder; (iii) such holder or holders shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby; and (iv) the Trustee for 60 days after its receipt of such notice, request and offer of indemnity, shall have failed to institute any such action, suit or proceeding and (v) during such 60 day period, the holders of a majority in principal amount of the Securities of that series (or such amount as shall have acted at a meeting of the holders of Securities of such series pursuant to the provisions of this Indenture) do not give the Trustee a direction inconsistent with the request; provided, however, that no one or more of such holders may use this Indenture to prejudice the rights of another holder or to obtain preference or priority over another holder.

Notwithstanding anything contained herein to the contrary, any other provisions of this Indenture, the right of any holder of any Security to receive payment of the principal of (and premium, if any) and interest on such Security, as therein provided, on or after the respective due dates expressed in such Security (or in the case of redemption, on the redemption date), or to institute suit for the enforcement of any such payment on or after such respective dates or redemption date, shall not be impaired or affected without the consent of such holder and by accepting a Security hereunder it is expressly understood, intended and covenanted by the taker and holder of every Security of such series with every other such taker and holder and the Trustee, that no one or more holders of Securities of such series shall have any right in any manner whatsoever by virtue or by availing of any provision of this Indenture to affect, disturb or prejudice the rights of the holders of any other of such Securities, or to obtain or seek to obtain priority over or preference to any other such holder, or to enforce any right under this Indenture, except in the manner herein provided and for the equal, ratable and common benefit of all holders of Securities of such series. For the protection and enforcement of the provisions of this Section, each and every Securityholder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

SECTION 6.05 Rights and Remedies Cumulative; Delay or Omission Not Waiver.

- (a) Except as otherwise provided in Section 2.07, all powers and remedies given by this Article to the Trustee or to the Securityholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any other powers and remedies available to the Trustee or the holders of the Securities, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture or otherwise established with respect to such Securities.
- (b) No delay or omission of the Trustee or of any holder of any of the Securities to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or on acquiescence therein; and, subject to the provisions of Section 6.04, every power and remedy given by this Article or by law to the Trustee or the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

SECTION 6.06 Control by Securityholders.

The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding, determined in accordance with Section 8.01, 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 the Trustee with respect to such series; provided, however, that such direction shall not be in conflict with any rule of law or with this Indenture or be unduly prejudicial to the rights of holders of Securities of any other series at the time Outstanding determined in accordance with Section 8.01. Subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer or Officers of the Trustee, determine that the proceeding so directed would involve the Trustee in personal liability. The holders either (a) through the written consent of not less than a majority in aggregate principal amount of the Securities of any series at the time Outstanding or (b) by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, by the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting, may on behalf of the holders of all of the Securities of such series waive any past default in the performance of any of the covenants contained herein or established pursuant to Section 2.01 with respect to such series and its consequences, except a default in the payment of the principal of, or premium, if any, or interest on, any of

the Securities of that series as and when the same shall become due by the terms of such Securities otherwise than by acceleration (unless such default has been cured and a sum sufficient to pay all matured installments of interest and principal and any premium has been deposited with the Trustee (in accordance with Section 6.01(c)) and except in respect a provision hereof which, under Section 9.02, cannot be modified or amended without the consent of the holders of each Outstanding Security affected; provided however that this Section shall not limit the right of holders of Securities of a series to rescind and annul any acceleration as set forth in Section 6.01. Upon any such waiver, the default covered thereby shall be deemed to be cured for all purposes of this Indenture and the Company, the Trustee and the holders of the Securities of such series shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon. The provisions which otherwise would be automatically deemed to be contained in this Indenture pursuant to Section (316)(a)(1) of the Trust Indenture Act are hereby expressly excluded from this Indenture, except to the extent such provisions are expressly included herein.

SECTION 6.07 Undertaking to Pay Costs.

All parties to this Indenture agree, and each holder of any Securities by such holder's acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Trustee, to any suit instituted by any Securityholder, or group of Securityholders, holding more than 10% in aggregate principal amount of the Outstanding Securities of any series, or to any suit instituted by any Securityholder for the enforcement of the payment of the principal of (or premium, if any) or interest on any Security of such series, on or after the respective due dates expressed in such Security or established pursuant to this Indenture.

ARTICLE VII

CONCERNING THE TRUSTEE

SECTION 7.01 Certain Duties and Responsibilities of Trustee.

- (a) The Trustee, prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing of all Events of Default with respect to the Securities of that series that may have occurred, shall undertake to perform with respect to the Securities of such series such duties and only such duties as are specifically set forth in this Indenture, and no implied covenants shall be read into this Indenture against the Trustee. In case an Event of Default with respect to the Securities of a series has occurred (that has not been cured or waived), the Trustee shall exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs.
- (b) 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 with respect to the Securities of a series and after the curing or waiving of all such Events of Default with respect to that series that may have occurred:
 - (i) the duties and obligations of the Trustee shall with respect to the Securities of such series be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable with respect to the Securities of such series 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

- (ii) in the absence of bad faith on the part of the Trustee, the Trustee may with respect to the Securities of such series 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 provision 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 requirement of this Indenture;
- (2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee, was negligent in ascertaining the pertinent facts;
- (3) 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 in principal amount of the Securities of any series 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 with respect to the Securities of that series; and
- (4) None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there is reasonable ground for believing that the repayment of such funds or liability is not reasonably assured to it under the terms of this Indenture or adequate indemnity against such risk is not reasonably assured to it.

SECTION 7.02 Certain Rights of Trustee.

Except as otherwise provided in Section 7.01:

- (a) The Trustee may rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;
- (b) Any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by a Board Resolution or an instrument signed in the name of the Company, by the President or any Vice President and by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer thereof (unless other evidence in respect thereof is specifically prescribed herein);
- (c) The Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or suffered or omitted hereunder in good faith and in reliance thereon;
- (d) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders, pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby; nothing

contained herein shall, however, relieve the Trustee of the obligation, upon the occurrence of an Event of Default with respect to a series of the Securities (that has not been cured or waived) to exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and to use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs;

- (e) The Trustee shall not be liable for any action taken or omitted to be taken by it in good faith and believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture;
- (f) 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, consent, order, approval, bond, security, or other papers or documents, unless requested in writing so to do by the holders of not less than a majority in principal amount of the Outstanding Securities of the particular series affected thereby (determined as provided in Section 8.04); provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity against such costs, expenses or liabilities as a condition to so proceeding. The reasonable expense of every such examination shall be paid by the Company or, if paid by the Trustee, shall be repaid by the Company upon demand; and
- (g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder.

SECTION 7.03 Trustee Not Responsible for Recitals or Issuance of Securities.

- (a) The recitals contained herein and in the Securities shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same.
- (b) The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities.
- (c) The Trustee shall not be accountable for the use or application by the Company of any of the Securities or of the proceeds of such Securities, or for the use or application of any moneys paid over by the Trustee in accordance with any provision of this Indenture or established pursuant to Section 2.01, or for the use or application of any moneys received by any paying agent other than the Trustee.

SECTION 7.04 May Hold Securities.

The Trustee or any paying agent or Security Registrar, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not Trustee, paying agent or Security Registrar.

SECTION 7.05 Moneys Held in Trust.

Subject to the provisions of Section 11.05, 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 interest on any moneys received by it hereunder except such as it may agree with the Company to pay thereon.

SECTION 7.06 Compensation and Reimbursement.

- (a) The Company covenants and agrees to pay to the Trustee, and the Trustee shall be entitled to, such reasonable compensation (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), as the Company, and the Trustee may from time to time agree in writing, for all services rendered by it in the execution of the trusts hereby created and in the exercise and performance of any of the powers and duties hereunder of the Trustee, and, except as otherwise expressly provided herein, the Company will pay or reimburse the Trustee upon its request for all reasonable expenses, disbursements and advances incurred or made by the Trustee in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all Persons not regularly in its employ) except any such expense, disbursement or advance as may arise from its negligence or bad faith. The Company also covenants to indemnify the Trustee (and its officers, agents, directors and employees) for, and to hold it harmless against, any loss, liability or expense incurred without negligence or bad faith on the part of the Trustee and arising out of or in connection with the acceptance or administration of this trust, including the costs and expenses of defending itself against any claim of liability in the premises.
- (b) The obligations of the Company under this Section to compensate and indemnify the Trustee and to pay or reimburse the Trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder. Such additional indebtedness shall be secured by a lien prior to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the holders of particular Securities.

SECTION 7.07 Reliance on Officers' Certificate.

Except as otherwise provided in Section 7.01, whenever in the administration of the provisions of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting to take any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee and such certificate, in the absence of negligence or bad faith on the part of the Trustee, shall be full warrant to the Trustee for any action taken, suffered or omitted to be taken by it under the provisions of this Indenture upon the faith thereof.

SECTION 7.08 Disqualification; Conflicting Interests.

If the Trustee has or shall acquire any "conflicting interest" within the meaning of Section 310(b) of the Trust Indenture Act, the Trustee and the Company shall in all respects comply with the provisions of Section 310(b) of the Trust Indenture Act.

SECTION 7.09 Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee with respect to the Securities issued hereunder which shall at all times be a corporation organized and doing business under the laws of the United States of America or any State or Territory thereof or of the District of Columbia, or a corporation or other Person permitted to act as trustee by the Commission, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least 50 million U.S. dollars (\$50,000,000), and subject to supervision or examination by Federal, State, Territorial, or District of Columbia authority. If such corporation publishes reports of condition at least annually, pursuant to law or to the requirements of the aforesaid 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. The Company may not, nor may any Person directly or indirectly controlling, controlled by, or under common control with the Company, serve as Trustee. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 7.10.

SECTION 7.10 Resignation and Removal; Appointment of Successor.

- (a) The Trustee or any successor hereafter appointed, may at any time resign with respect to the Securities of one or more series by giving written notice thereof to the Company and by transmitting notice of resignation by mail, first class postage prepaid, to the Securityholders of such series, as their names and addresses appear upon the Security Register. Upon receiving such notice of resignation, the Company shall promptly appoint a successor trustee with respect to Securities of such series by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee. If no successor trustee shall have been so appointed and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor trustee with respect to Securities of such series, or any Securityholder of that series who has been a bona fide holder of a Security or Securities for at least six months may on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.
- (b) In case at any time any one of the following shall occur:
- (1) the Trustee shall fail to comply with the provisions of Section 7.08 after written request therefor by the Company or by any Securityholder who has been a bona fide holder of a Security or Securities for at least six months; or
 - (2) the Trustee shall cease to be eligible in accordance with the provisions of Section 7.09 and shall fail to resign after written request therefor by the Company or by any such Securityholder; or
 - (3) the Trustee shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or commence a voluntary bankruptcy proceeding, or a receiver of the Trustee or of its property shall be appointed or consented to, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation, then, in any such case, the Company may remove the Trustee with respect to all Securities and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or, unless the Trustee's duty to resign is stayed as provided herein, any Securityholder who has been a bona fide holder of a Security or Securities for at least six months may, on behalf of that holder and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.
- (c) The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding may at any time remove the Trustee with respect to such series by so notifying the Trustee and the Company and may appoint a successor Trustee for such series with the consent of the Company.
- (d) Any resignation or removal of the Trustee and appointment of a successor trustee with respect to the Securities of a series pursuant to any of the provisions of this Section shall become effective upon acceptance of appointment by the successor trustee as provided in Section 7.11.

- (e) Any successor trustee appointed pursuant to this Section may be appointed with respect to the Securities of one or more series or all of such series, and at any time there shall be only one Trustee with respect to the Securities of any particular series.

SECTION 7.11 Acceptance of Appointment By Successor.

- (a) In case of the appointment hereunder of a successor trustee with respect to all Securities, every such successor trustee so appointed shall execute, acknowledge and deliver to the Company and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal of the retiring Trustee shall become effective and 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; 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 each successor trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor trustee shall accept such appointment and which (1) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each 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, (2) 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 (3) 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, 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 that no Trustee shall be responsible for any act or failure to act on the part of any other Trustee hereunder; 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, such retiring Trustee shall with respect to the Securities of that or those series to which the appointment of such successor trustee relates have no further responsibility for the exercise of rights and powers or for the performance of the duties and obligations vested in the Trustee under this Indenture, 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, to the extent contemplated by such supplemental indenture, the 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) Upon request of any such successor trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor trustee all such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.
- (d) No successor trustee shall accept its appointment unless at the time of such acceptance such successor trustee shall be qualified and eligible under this Article.

- (e) Upon acceptance of appointment by a successor trustee as provided in this Section, the Company shall transmit notice of the succession of such trustee hereunder by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register. If the Company fails to transmit such notice within ten days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be transmitted at the expense of the Company.

SECTION 7.12 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 the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 7.08 and eligible under the provisions of Section 7.09, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding. 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 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 7.13 Preferential Collection of Claims Against the Company.

The Trustee shall comply with Section 311(a) of the Trust Indenture Act, excluding any creditor relationship described in Section 311(b) of the Trust Indenture Act. A Trustee who has resigned or been removed shall be subject to Section 311(a) of the Trust Indenture Act to the extent included therein.

ARTICLE VIII

CONCERNING THE SECURITYHOLDERS

SECTION 8.01 Evidence of Action by Securityholders.

Whenever in this Indenture it is provided that the holders of a majority or specified percentage in aggregate principal amount of the Securities of a particular series may take any action (including the making of any demand or request, the giving of any notice, consent or waiver or the taking of any other action), the fact that at the time of taking any such action the holders of such majority or specified percentage of that series have joined therein may be evidenced by any instrument or any number of instruments of similar tenor executed by such holders of Securities of that series in Person or by agent or proxy appointed in writing.

If the Company shall solicit from the Securityholders of any series any request, demand, authorization, direction, notice, consent, waiver or other action, the Company may, at its option, as evidenced by an Officers' Certificate, fix in advance a record date for such series for the determination of Securityholders entitled to give such request, demand, authorization, direction, notice, consent, waiver or other action, 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 action may be given before or after the record date, but only the Securityholders of record at the close of business on the record date shall be deemed to be Securityholders for the purposes of determining whether Securityholders of the requisite proportion of Outstanding Securities of that series have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other action, and for that purpose the Outstanding Securities of that series shall be computed as of the record date; provided, however, that no such authorization, agreement or consent by such Securityholders on the record date shall be deemed effective unless it shall become effective pursuant to the provisions of this Indenture not later than six months after the record date.

SECTION 8.02 Proof of Execution by Securityholders.

Subject to the provisions of Section 7.01, proof of the execution of any instrument by a Securityholder (such proof will not require notarization) or his agent or proxy and proof of the holding by any Person of any of the Securities shall be sufficient if made in the following manner:

- (a) The fact and date of the execution by any such Person of any instrument may be proved in any reasonable manner acceptable to the Trustee.
- (b) The ownership of Securities shall be proved by the Security Register of such Securities or by a certificate of the Security Registrar thereof.
- (c) The Trustee may require such additional proof of any matter referred to in this Section as it shall deem necessary.

SECTION 8.03 Who May be Deemed Owners.

Prior to the due presentment for registration of transfer of any Security, the Company, the Trustee, any paying agent and any Security Registrar may deem and treat the Person in whose name such Security shall be registered upon the books of the Company as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notice of ownership or writing thereon made by anyone other than the Security Registrar) for the purpose of receiving payment of or on account of the principal of, premium, if any, and (subject to Section 2.03) interest on such Security and for all other purposes; and neither the Company nor the Trustee nor any paying agent nor any Security Registrar shall be affected by any notice to the contrary.

SECTION 8.04 Certain Securities Owned by Company Disregarded.

In determining whether the holders of the requisite aggregate principal amount of Securities of a particular series have concurred in any direction, consent or waiver under this Indenture, the Securities of that series that are owned by the Company or any other obligor on the Securities of that series or by any Person directly or indirectly controlling or controlled by or under common control with the Company or any other obligor on the Securities of that series shall be disregarded and deemed not to be Outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver, only Securities of such series that the Trustee actually knows are so owned shall be so disregarded. The Securities so owned that have been pledged in good faith may be regarded as Outstanding for the purposes of this Section, if the pledgee shall establish to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not a Person directly or indirectly controlling or controlled by or under direct or indirect common control with the Company or any such other obligor. In case of a dispute as to such right, any decision by the Trustee taken upon the advice of counsel shall be full protection to the Trustee.

SECTION 8.05 Actions Binding on Future Securityholders.

At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 8.01, of the taking of any action by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action, any holder of a Security of that series that is shown by the evidence to be included in the Securities the holders of which have consented to such action may, by filing written notice with the Trustee, and upon proof of holding as provided in Section 8.02, revoke such action so far as concerns such Security. Except as aforesaid any such action taken by the holder of any Security shall be conclusive and binding upon such holder and upon all future holders and owners of such Security, and of any Security issued in exchange therefor, on registration of transfer thereof or in place thereof, irrespective of whether or not any notation in regard thereto is made upon such Security. Any action taken by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action shall be conclusively binding upon the Company, the Trustee and the holders of all the Securities of that series.

SECTION 8.06 Purposes for Which Meetings May Be Called.

A meeting of holders of any series of Securities may be called at any time and from time to time pursuant to this Article to make, give or take any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be made, given or taken by holders of such series of Securities.

Notwithstanding anything contained in this Article VIII, the Trustee may, during the pendency of a Default or an Event of Default, call a meeting of holders of any series of Securities in accordance with its standard practices.

SECTION 8.07 Call Notice and Place of Meetings.

- (a) The Trustee may at any time call a meeting of holders of any series of Securities for any purpose specified in Section 8.06 hereof, to be held at such time and at such place in The City of New York. Notice of every meeting of holders of any series of Securities, setting forth the time and the place of such meeting, in general terms the action proposed to be taken at such meeting and the percentage of the principal amount of the Outstanding Securities of such series which shall constitute a quorum at such meeting, shall be given, in the manner provided in Section 13.04 hereof, not less than 21 nor more than 180 days prior to the date fixed for the meeting to holders of Outstanding Securities of such series.
- (b) In case at any time the Company, pursuant to a Board Resolution, or the holders of at least 10% in principal amount of the Outstanding Securities of any series shall have requested the Trustee to call a meeting of the holders of Securities of such series for any purpose specified in Section 8.06 hereof, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 21 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Company or the holders of Securities of such series in the amount specified, as the case may be, may determine the time and the place in The City of New York for such meeting and may call such meeting for such purposes by giving notice thereof as provided in paragraph (a) of this Section.

SECTION 8.08 Persons Entitled To Vote at Meetings.

To be entitled to vote at any meeting of holders of Securities of a given series, a Person shall be (a) a holder of one or more Outstanding Securities of such series or (b) a Person appointed by an instrument in writing as proxy for a holder or holders of one or more Outstanding Securities of such series by such holder or holders. The only Persons who shall be entitled to be present or to speak at any meeting of holders shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Company and its counsel.

SECTION 8.09 Quorum; Action.

The Persons entitled to vote a majority in aggregate principal amount of the Outstanding Securities of a given series shall constitute a quorum with respect to a meeting of holders of Outstanding Securities of such series. In the absence of a quorum within 30 minutes of the time appointed for any such meeting, the meeting shall, if convened at the request of holders of Securities of such series, be dissolved. In any other case, the meeting may be adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such meeting. In the absence of a quorum at any such adjourned meeting, such adjourned meeting may be further adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such adjourned meeting. Notice of the reconvening of any adjourned meeting shall be given as provided in Section 8.07(a) hereof, except that such notice need be given only once and not less than five days prior to the date on which the meeting is scheduled to be reconvened.

At a meeting or an adjourned meeting duly reconvened and at which a quorum is present as aforesaid, any resolution and all matters (except as limited by the proviso to the first paragraph of Section 9.02 hereof) shall be effectively passed and decided if passed or decided by the Persons entitled to vote not less than a majority in aggregate principal amount of Outstanding Securities of a series represented and voting at such meeting with respect to a meeting of holders of Outstanding Securities of such series.

Any resolution passed or decisions taken at any meeting of holders of Securities duly held in accordance with this Section shall be binding on all the holders of Securities of such series, whether or not present or represented at the meeting.

SECTION 8.10 Determination of Voting Rights; Conduct and Adjournment of Meetings.

- (a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of holders of Securities in regard to proof of the holding of Securities and of the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate.
- (b) The Trustee shall, by an instrument in writing, appoint a temporary chairman (which may be the Trustee) of the meeting, unless the meeting shall have been called by the Company or by holders of Securities of a given series as provided in Section 8.07(b) hereof, in which case the Company or the holders of Securities of such series calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the Outstanding Securities of such series represented at the meeting.
- (c) At any meeting, each holder of a Security of the series in respect of which such meeting is being held or proxy shall be entitled to one vote for each \$1,000 principal amount of Securities of such series held or represented by him; provided, however, that no vote shall be cast or counted at any meeting in respect of any Security of such series challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a holder of a Security of such series or proxy.
- (d) Any meeting of holders of Securities duly called pursuant to Section 8.07 hereof at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Securities of the series in respect of which such meeting is being held represented at the meeting, and the meeting may be held as so adjourned without further notice.

SECTION 8.11 Counting Votes and Recording Action of Meetings.

The vote upon any resolution submitted to any meeting of holders of Securities of a given series shall be by written ballots on which shall be subscribed the signatures of the holders of Securities of such series or of their representatives by proxy and the principal amounts and serial numbers of the Outstanding Securities of such series held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of holders of Securities of such series shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more Persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was given as provided in Section 8.07 hereof and, if applicable, Section 8.09 hereof. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one such copy shall be delivered to the Company and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

ARTICLE IX

SUPPLEMENTAL INDENTURES

SECTION 9.01 Supplemental Indentures Without the Consent of Securityholders.

In addition to any supplemental indenture otherwise authorized by this Indenture, the Company and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect), without the consent of the Securityholders, for one or more of the following purposes:

- (a) cure any ambiguity, correct or supplement any provision herein which may be inconsistent with any other provision herein or which is otherwise defective, or make any other provisions with respect to matters or questions arising under this Indenture which the Company and the Trustee may deem necessary or desirable and which shall not be inconsistent with the provisions of this Indenture;
- (b) to comply with Article X;
- (c) to provide for uncertificated Securities in addition to or in place of certificated Securities;
- (d) 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;
- (e) to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of Securities, as herein set forth;
- (f) to make any change that does not adversely affect the rights of any Securityholder in any material respect;
- (g) to provide for the issuance of and establish the form and terms and conditions of the Securities of any series as provided in Section 2.01, to establish the form of any certifications required to be furnished pursuant to the terms of this Indenture or any series of Securities, or to add to the rights of the holders of any series of Securities; or
- (h) comply with the requirements of the Commission in order to effect or maintain the qualification of this Indenture under the Trust Indenture Act.

The Trustee is hereby authorized to join with the Company in the execution of any such supplemental indenture, and to make any further appropriate agreements and stipulations that may be therein contained, but the Trustee shall not be obligated to enter into any such supplemental indenture that affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this Section may be executed by the Company and the Trustee without the consent of the holders of any of the Securities at the time Outstanding, notwithstanding any of the provisions of Section 9.02.

SECTION 9.02 Supplemental Indentures With Consent of Securityholders.

With the written consent of the holders of at least a majority in aggregate principal amount of the Outstanding Securities of any series or by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, by the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting, the Company, when authorized by Board Resolutions, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner not covered by Section 9.01 the rights of the holders of the Securities of such series under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the holders of each Security then Outstanding and affected thereby, (i) extend the fixed maturity of any Securities of any series, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof, (ii) reduce the aforesaid percentage of Securities, the holders of which are required to consent to any such supplemental indenture, or any consent or waiver, (iii) reduce the principal amount of discount securities payable upon acceleration of the maturity of any Securities of any series or (iv) make the principal of or premium or interest on any Security of a series payable in currency or currency units other than that stated in the Securities of such series.

It shall not be necessary for the consent of the Securityholders of any series affected thereby under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

SECTION 9.03 Effect of Supplemental Indentures.

Upon the execution of any supplemental indenture pursuant to the provisions of this Article or of Section 10.01, this Indenture shall, with respect to such series, be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Company and the holders of Securities of the series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

SECTION 9.04 Securities Affected by Supplemental Indentures.

Securities of any series affected by a supplemental indenture, authenticated and delivered after the execution of such supplemental indenture pursuant to the provisions of this Article or of Section 10.01, may bear a notation in form approved by the Company, provided such form meets the requirements of any exchange upon which such series may be listed, as to any matter provided for in such supplemental indenture. If the Company shall so determine, new Securities of that series so modified as to conform, in the opinion of the Board of Directors of the Company, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Company, authenticated by the Trustee and delivered in exchange for the Securities of that series then Outstanding.

SECTION 9.05 Execution of Supplemental Indentures.

Upon the request of the Company, accompanied by its Board Resolutions authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Securityholders required to consent thereto as aforesaid, the Trustee shall join with the Company in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion but shall not be obligated to enter into such supplemental indenture. The Trustee, subject to the provisions of Section 7.01, may receive an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article is authorized or permitted by, and conforms to, the terms of this Article and that it is proper for the Trustee under the provisions of this Article to join in the execution thereof; provided, however, that such Opinion of Counsel need not be provided in connection with the execution of a supplemental indenture that establishes the terms of a series of Securities pursuant to Section 2.01 hereof.

Promptly after the execution by the Company and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Trustee shall transmit by mail, first class postage prepaid, a notice, setting forth in general terms the substance of such supplemental indenture, to the Securityholders of all series affected thereby as their names and addresses appear upon the Security Register. Any failure of the Trustee to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

ARTICLE X

SUCCESSOR ENTITY

SECTION 10.01 Company May Consolidate, Etc.

Nothing contained in this Indenture or in any of the Securities shall prevent any consolidation or merger of the Company with or into any other Person (whether or not affiliated with the Company) or successive consolidations or mergers in which the Company or its successor or successors shall be a party or parties, or shall prevent any sale, conveyance, transfer or other disposition of the property of the Company or its successor or successors as an entirety, or substantially as an entirety, to any other corporation (whether or not affiliated with the Company or its successor or successors) authorized to acquire and operate the same; provided, however, the Company hereby covenants and agrees

that, upon any such consolidation or merger (in each case, if the Company is not the survivor of such transaction), sale, conveyance, transfer or other disposition, the due and punctual payment of the principal of (premium, if any) and interest on all of the Securities of all series in accordance with the terms of each series, according to their tenor and the due and punctual performance and observance of all the covenants and conditions of this Indenture with respect to each series or established with respect to such series pursuant to Section 2.01 to be kept or performed by the Company shall be expressly assumed, by supplemental indenture (which shall conform to the provisions of the Trust Indenture Act, as then in effect) satisfactory in form to the Trustee executed and delivered to the Trustee by the entity formed by such consolidation, or into which the Company shall have been merged, or by the entity which shall have acquired such property.

SECTION 10.02 Successor Entity Substituted.

- (a) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition and upon the assumption by the successor entity by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the due and punctual payment of the principal of, premium, if any, and interest on all of the Securities of all series Outstanding and the due and punctual performance of all of the covenants and conditions of this Indenture or established with respect to each series of the Securities pursuant to Section 2.01 to be performed by the Company with respect to each series, such successor entity shall succeed to and be substituted for the Company with the same effect as if it had been named as the Company herein, and thereupon the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

- (b) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.
- (c) Nothing contained in this Article shall require any action by the Company in the case of a consolidation or merger of any Person into the Company where the Company is the survivor of such transaction, or the acquisition by the Company, by purchase or otherwise, of all or any part of the property of any other Person (whether or not affiliated with the Company).

SECTION 10.03 Evidence of Consolidation, Etc. to Trustee.

The Trustee, subject to the provisions of Section 7.01, may receive an Opinion of Counsel as conclusive evidence that any such consolidation, merger, sale, conveyance, transfer or other disposition, and any such assumption, comply with the provisions of this Article.

ARTICLE XI

SATISFACTION AND DISCHARGE

SECTION 11.01 Satisfaction and Discharge of Indenture.

If at any time: (a) the Company shall have delivered to the Trustee for cancellation all Securities of a series theretofore authenticated (other than any Securities that shall have been destroyed, lost or stolen and that shall have been replaced or paid as provided in Section 2.07) and Securities for whose payment money or Governmental Obligations have theretofore been deposited in trust or segregated and held in trust by the Company (and thereupon repaid to the Company or discharged from such trust, as provided in Section 11.05); or (b) all such Securities of a particular series not theretofore 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 under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall deposit or cause to be deposited with the Trustee as trust funds the entire amount in moneys or Governmental Obligations sufficient or a combination thereof, sufficient (assuming that no tax liability will be imposed on the Trustee) in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay at maturity or upon redemption all Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder with respect to such series by the Company then this Indenture shall thereupon cease to be of further effect with respect to such series except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03 and 7.10, that shall survive until the date of maturity or redemption date, as the case may be, and Sections 7.06 and 11.05, that shall survive to such date and thereafter, and the Trustee, on demand of the Company and at the cost and expense of the Company shall execute proper instruments acknowledging satisfaction of and discharging this Indenture with respect to such series.

SECTION 11.02 Discharge of Obligations.

If at any time all such Securities of a particular series not heretofore delivered to the Trustee for cancellation or that have not become due and payable as described in Section 11.01 shall have been paid by the Company by depositing irrevocably with the Trustee as trust funds moneys or an amount of Governmental Obligations sufficient to pay at maturity or upon redemption all such Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder by the Company with respect to such series, then after the date such moneys or Governmental Obligations, as the case may be, are deposited with the Trustee the obligations of the Company under this Indenture with respect to such series shall cease to be of further effect except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03, 7.06, 7.10 and 11.05 hereof that shall survive until such Securities shall mature and be paid thereafter, Sections 7.06 and 11.05 shall survive.

SECTION 11.03 Deposited Moneys to be Held in Trust.

Subject to Section 11.05, all moneys or Governmental Obligations deposited with the Trustee pursuant to Sections 11.01 or 11.02 shall be held in trust and shall be available for payment as due, either directly or through any paying agent (including the Company acting as its own paying agent), to the holders of the particular series of Securities for the payment or redemption of which such moneys or Governmental Obligations have been deposited with the Trustee.

SECTION 11.04 Payment of Moneys Held by Paying Agents.

In connection with the satisfaction and discharge of this Indenture all moneys or Governmental Obligations then held by any paying agent under the provisions of this Indenture shall, upon demand of the Company, be paid to the Trustee and thereupon such paying agent shall be released from all further liability with respect to such moneys or Governmental Obligations.

SECTION 11.05 Repayment to Company.

Any moneys or Governmental Obligations deposited with any paying agent or the Trustee, or then held by the Company, in trust for payment of principal of or premium or interest on the Securities of a particular series that are not applied but remain unclaimed by the holders of such Securities for two years after the date upon which the principal of (and premium, if any) or interest on such Securities shall have respectively become due and payable, shall be repaid to the Company or (if then held by the Company) shall be discharged from such trust in each case, promptly after the end of any such two-year period or, at the request of the Company, on a later date specified by the Company; and thereupon the paying agent and the Trustee shall be released from all further liability with respect to such moneys or Governmental Obligations, and the holder of any of the Securities entitled to receive such payment shall thereafter, as an unsecured general creditor, look only to the Company for the payment thereof.

ARTICLE XII

IMMUNITY OF INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS

SECTION 12.01 No Recourse.

No recourse under or upon any obligation, covenant or agreement of this Indenture, or of any Security, or for any claim based thereon or otherwise in respect thereof, shall be had against any incorporator, stockholder, officer or director, past, present or future as such, of the Company or of any predecessor or successor corporation, either directly or through the Company or any such predecessor or successor corporation, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that this Indenture and the obligations issued hereunder are solely corporate obligations, and that no such personal liability whatever shall attach to, or is or shall be incurred by, the incorporators, stockholders, officers or directors as such, of the Company or of any predecessor or successor corporation, or any of them, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom; and that any and all such personal liability of every name and nature, either at common law or in equity or by constitution or statute, of, and any and all such rights and claims against, every such incorporator, stockholder, officer or director as such, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom, are hereby expressly waived and released as a condition of, and as a consideration for, the execution of this Indenture and the issuance of such Securities.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

SECTION 13.01 Effect on Successors and Assigns.

All the covenants, stipulations, promises and agreements in this Indenture contained by or on behalf of the Company shall bind its successors and assigns, whether so expressed or not.

SECTION 13.02 Actions by Successor.

Any act or proceeding by any provision of this Indenture 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 corresponding board, committee or officer of any corporation that shall at the time be the lawful successor of the Company.

SECTION 13.03 Surrender of Company Powers.

The Company by instrument in writing executed by authority of its Board of Directors and delivered to the Trustee may surrender any of the powers reserved to the Company, and thereupon such power so surrendered shall terminate both as to the Company and as to any successor corporation.

SECTION 13.04 Notices.

Except as otherwise expressly provided herein any notice or demand that by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the holders of Securities to or on the Company may be given or served by being deposited first class postage prepaid in a post-office letterbox addressed (until another address is filed in writing by the Company with the Trustee), as follows: Pieris Pharmaceuticals, Inc., Attn: [], 255 State Street, 9th Floor, Boston, Massachusetts 02109. Any notice, election, request or demand by the Company or any Securityholder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made in writing at the Corporate Trust Office of the Trustee. Any notice or communication to a holder shall be mailed by first-class mail to his address shown on the Security Register kept by the Security Registrar. Failure to mail a notice or communication to a holder or any defect in such notice or communication shall not affect its sufficiency with respect to other holders. If a notice or communication is mailed or sent in the manner provided above within the time prescribed, it is duly given as of the date it is mailed, whether or not the addressee receives it, except that notice to the Trustee or the Company shall only be effective upon receipt thereof by the Trustee or the Company, respectively. If the Company mails a notice or communication to holders of Securities, it shall mail a copy to the Trustee at the same time.

SECTION 13.05 Governing Law.

This Indenture and each Security shall be deemed to be a contract made under the internal laws of the State of New York, and for all purposes shall be construed in accordance with the laws of said State.

SECTION 13.06 Treatment of Securities as Debt.

It is intended that the Securities will be treated as indebtedness and not as equity for federal income tax purposes. The provisions of this Indenture shall be interpreted to further this intention.

SECTION 13.07 Compliance Certificates and Opinions.

- (a) Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture, the Company, shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent 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 have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.
- (b) Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant in this Indenture shall include (1) a statement that the Person making such certificate or opinion has read such covenant or condition; (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 such Person, he has

made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and (4) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been complied with.

SECTION 13.08 Payments on Business Days.

Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and as set forth in an Officers' Certificate, or established in one or more indentures supplemental to this Indenture, in any case where the date of maturity of interest or principal of any Security or the date of redemption of any Security shall not be a Business Day, then payment of interest or principal (and premium, if any) may be made on the next succeeding Business Day with the same force and effect as if made on the nominal date of maturity or redemption, and no interest shall accrue for the period after such nominal date.

SECTION 13.09 Conflict with Trust Indenture Act.

If and to the extent that any provision of this Indenture limits, qualifies or conflicts with the duties imposed by Sections 310 to 317, inclusive, of the Trust Indenture Act, such imposed duties shall control.

SECTION 13.10 Counterparts.

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 and the same instrument.

SECTION 13.11 Separability.

In case any one or more of the provisions contained in this Indenture or in the Securities of any series shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Indenture or of such Securities, but this Indenture and such Securities shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein or therein.

SECTION 13.12 Assignment.

The Company will have the right at all times to assign any of its rights or obligations under this Indenture to a direct or indirect wholly-owned Subsidiary of the Company, provided that, in the event of any such assignment, the Company, will remain liable for all such obligations. Subject to the foregoing, this Indenture is binding upon and inures to the benefit of the parties thereto and their respective successors and assigns. This Indenture may not otherwise be assigned by the parties thereto.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed all as of the day and year first above written.

PIERIS PHARMACEUTICALS, INC.

By: _____
Name:
Title:

[],
As Trustee

By: _____
Name:

Title:

PIERIS PHARMACEUTICALS, INC.

Issuer

AND

[] Trustee

INDENTURE

Dated as of []

Subordinated Debt Securities

CROSS-REFERENCE TABLE (1)

Section of Trust Indenture Act of 1939, as Amended	Section of Indenture
310(a).	7.09
310(b).	7.08
	7.10
310(c).	Inapplicable
311(a).	7.13(a)
311(b).	7.13(b)
311(c).	Inapplicable
312(a).	5.02(a)
312(b).	5.02(b)
312(c).	5.02(c)
313(a).	5.04(a)
313(b).	5.04(a)
313(c).	5.04(a)
	5.04(b)
313(d).	5.04(b)
314(a).	5.03
314(b).	Inapplicable
314(c).	13.06
314(d).	Inapplicable
314(e).	13.06
314(f).	Inapplicable
315(a).	7.01(a)
	7.02
315(b).	6.07
315(c).	7.01
315(d).	7.01(b)
	7.01(c)
315(e).	6.07
316(a).	6.06
	8.04
316(b).	6.04
316(c).	8.01
317(a).	6.02
317(b).	4.03
318(a).	13.08

(1) This Cross-Reference Table does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms or provisions.

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(2) This Table of Contents does not constitute part of the Indenture and shall not have any bearing on the interpretation of any of its terms or provisions.

INDENTURE, dated as of [], by and between Pieris Pharmaceuticals, Inc., a Nevada corporation (the “Company”), and [], as trustee (the “Trustee”):

WHEREAS, for its lawful corporate purposes, the Company has duly authorized the execution and delivery of this Indenture to provide for the issuance of subordinated debt securities (hereinafter referred to as the “Securities”), in an unlimited aggregate principal amount to be issued from time to time in one or more series as in this Indenture provided, as registered Securities without coupons, to be authenticated by the certificate of the Trustee;

WHEREAS, to provide the terms and conditions upon which the Securities are to be authenticated, issued and delivered, the Company has duly authorized the execution of this Indenture; and

WHEREAS, all things necessary to make this Indenture a valid agreement of the Company, in accordance with its terms, have been done.

NOW, THEREFORE, 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 Securities:

ARTICLE I

DEFINITIONS

SECTION 1.01 Definitions of Terms.

The terms defined in this Section (except as in this Indenture otherwise expressly provided or unless the context otherwise requires) for all purposes of this Indenture and of any indenture supplemental hereto shall have the respective meanings specified in this Section and shall include the plural as well as the singular. All other terms used in this Indenture that are defined in the Trust Indenture Act of 1939, as amended, or that are by reference in such Act defined in the Securities Act of 1933, as amended (except as herein otherwise expressly provided or unless the context otherwise requires), shall have the meanings assigned to such terms in said Trust Indenture Act and in said Securities Act as in force at the date of the execution of this instrument.

“Authenticating Agent” means an authenticating agent with respect to all or any of the series of Securities appointed with respect to all or any series of the Securities by the Trustee pursuant to Section 2.10.

“Bankruptcy Law” means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

“Board of Directors” means the Board of Directors of the Company or any duly authorized committee of such Board.

“Board Resolution” means a copy of a resolution certified by the 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 such certification.

“Business Day” means, with respect to any series of Securities, any day other than a day on which Federal or State banking institutions in the Borough of Manhattan, the City and State of New York, are authorized or obligated by law, executive order or regulation to close.

“Certificate” means a certificate signed by the principal executive officer, the principal financial officer or the principal accounting officer of the Company. The Certificate need not comply with the provisions of Section 13.07.

“Commission” means the Securities and Exchange Commission.

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

“Corporate Trust Office” means the office of the Trustee at which, at any particular time, its corporate trust business shall be principally administered, which office at the date hereof is located at [], except that whenever a provision herein refers to an office or agency of the Trustee in the Borough of Manhattan, the City and State of New York, such office is located, at the date hereof, at [].

“Custodian” means any receiver, trustee, assignee, liquidator, or similar official under any Bankruptcy Law.

“Default” means an event which is, or after notice or lapse of time, or both, would constitute an Event of Default.

“Depository” means, with respect to Securities of any series, for which the Company shall determine that such Securities will be issued as a Global Security, The Depository Trust Company, New York, New York, another clearing agency, or any successor registered as a clearing agency under the Exchange Act, or other applicable statute or regulation, which, in each case, shall be designated by the Company pursuant to either Section 2.01 or Section 2.11.

“Event of Default” means, with respect to Securities of a particular series, any event specified in Section 6.01, continued for the period of time, if any, therein designated.

“Exchange Act” means the Securities Exchange Act of 1934, as amended.

“Global Security” means, with respect to any series of Securities, a Security executed by the Company and delivered by the Trustee to the Depository or pursuant to the Depository’s instruction, all in accordance with this Indenture, which shall be registered in the name of the Depository or its nominee.

“Governmental Obligations” means securities that are (i) direct obligations of the United States of America 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 of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America that, in either case, are non-callable at the option of the issuer thereof, and shall also include a depository receipt issued by a bank (as defined in Section 3(a)(2) of the Securities Act of 1933, as amended) as custodian with respect to any such Governmental Obligation or a specific payment of principal of or interest on any such Governmental Obligation held by such custodian for the account of the holder of such depository receipt; provided, however, 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 Governmental Obligation or the specific payment of principal of or interest on the Governmental Obligation evidenced by such depository receipt.

“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.

“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 in accordance with the terms hereof.

“Interest Payment Date,” when used with respect to any installment of interest on a Security of a particular series, means the date specified in such Security or in a Board Resolution or in an indenture supplemental hereto with respect to such series as the fixed date on which an installment of interest with respect to Securities of that series is due and payable.

“Officers’ Certificate” means a certificate signed by the President or a Vice President and by the Chief Financial Officer, Vice President of Finance, the Treasurer or an Assistant Treasurer or the Controller or an Assistant Controller or the Secretary or an Assistant Secretary of the Company that is delivered to the Trustee in accordance with the terms hereof. Certificate shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

“Opinion of Counsel” means a written opinion of counsel, who may be counsel to the Company (and may include directors or employees of the Company) and which opinion is acceptable to the Trustee which acceptance shall not be unreasonably withheld.

“Outstanding”, when used with reference to Securities of any series, means, subject to the provisions of Section 8.04, as of any particular time, all Securities of that series theretofore authenticated and delivered by the Trustee under this Indenture, except (a) Securities theretofore canceled by the Trustee or any paying agent, or delivered to the Trustee or any paying agent for cancellation or that have previously been canceled; (b) Securities or portions thereof for the payment or redemption of which moneys or Governmental Obligations in the necessary amount shall have been deposited in trust with the Trustee or with any paying agent (other than the Company) or shall have been set aside and segregated in trust by the Company (if the Company shall act as its own paying agent); provided, however, that if such Securities or portions of such Securities are to be redeemed prior to the maturity thereof, notice of such redemption shall have been given as in Article III provided, or provision satisfactory to the Trustee shall have been made for giving such notice; and (c) Securities in lieu of or in substitution for which other Securities shall have been authenticated and delivered pursuant to the terms of Section 2.07.

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

“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 2.07 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.

“Responsible Officer,” when used with respect to the Trustee, means any officer of the Trustee, including any vice president, assistant vice president, secretary, assistant secretary, the treasurer, any assistant treasurer, the managing director or any other officer of the Trustee customarily performing functions similar to those performed by any of the above designated officers and also means, with respect to a particular corporate trust matter, any other officer to whom such matter is referred because of such officer’s knowledge of and familiarity with the particular subject.

“Securities” means the debt Securities authenticated and delivered under this Indenture.

“Security Register” has the meaning specified in Section 2.05.

“Security Registrar” has the meaning specified in Section 2.05.

“Securityholder,” “holder of Securities,” “registered holder,” or other similar term, means the Person or Persons in whose name or names a particular Security shall be registered in the Security Register.

“Subsidiary” means, with respect to any Person, (i) any corporation at least a majority of whose outstanding Voting Stock shall at the time be owned, directly or indirectly, by such Person or by one or more of its Subsidiaries or by such Person and one or more of its Subsidiaries, (ii) any general partnership, joint venture or similar entity, at least a majority of whose outstanding partnership or similar interests shall at the time be owned by such Person, or by one or more of its Subsidiaries, or by such Person and one or more of its Subsidiaries and (iii) any limited partnership of which such Person or any of its Subsidiaries is a general partner.

“Trustee” means the Person named as the “Trustee” in the first paragraph of this instrument until a successor Trustee shall have become such pursuant to the applicable provisions of this Indenture, and thereafter “Trustee” shall mean such successor Trustee. The term “Trustee” as used with respect to a particular series of the Securities shall mean the trustee with respect to that series.

“Trust Indenture Act” means the Trust Indenture Act of 1939, as amended, subject to the provisions of Sections 9.01, 9.02, and 10.01, as in effect at the date of execution of this instrument; provided, however, that in the event the Trust Indenture Act is amended after such date, Trust Indenture Act means, to the extent required by such amendment, the Trust Indenture Act of 1939, as so amended, or any successor statute.

“Voting Stock,” as applied to any Person, means shares, interests, participations or other equivalents in the equity interest (however designated) in such Person having ordinary voting power for the election of a majority of the

directors (or the equivalent) of such Person, other than shares, interests, participations or other equivalents having such power only by reason of the occurrence of a contingency.

ARTICLE II

ISSUE, DESCRIPTION, TERMS, EXECUTION, REGISTRATION AND EXCHANGE OF SECURITIES

SECTION 2.01 Designation and Terms of Securities.

- (a) The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series up to the aggregate principal amount of Securities of that series from time to time authorized by or pursuant to a Board Resolution of the Company or pursuant to one or more indentures supplemental hereto. Prior to the initial issuance of Securities of a given series, there shall be established in or pursuant to a Board Resolution of the Company, and set forth in an Officers' Certificate of the Company, or established in one or more indentures supplemental hereto:
- (1) the title of the Security of the series (which shall distinguish the Securities of the series from all other Securities);
 - (2) the aggregate principal amount of the Securities of such series initially to be issued and any limit upon the aggregate principal amount of the Securities of that series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of that series);
 - (3) the currency or units based on or relating to currencies in which debt securities of such series are denominated and the currency or units in which principal or interest or both will or may be payable;
 - (4) the date or dates on which the principal of the Securities of the series is payable and the place(s) of payment;
 - (5) the rate or rates at which the Securities of the series shall bear interest or the manner of calculation of such rate or rates, if any;
 - (6) the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest will be payable or the manner of determination of such Interest Payment Dates, the place(s) of payment, and the record date for the determination of holders to whom interest is payable on any such Interest Payment Dates or the method for determining such dates;
 - (7) the right, if any, to extend the interest payment periods or to defer the payment of interest and the duration of such extension;
 - (8) the period or periods within which, the price or prices at which and the terms and conditions upon which, Securities of the series may be redeemed, in whole or in part, at the option of the Company;
 - (9) the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund or analogous provisions (including payments made in cash in satisfaction of future sinking fund obligations) or at the option of a holder thereof and the period or

periods within which, the price or prices at which, and the terms and conditions upon which, Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

- (10) whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- (11) the form of the Securities of the series including the form of the Certificate of Authentication for such series;
- (12) if other than denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, the denominations in which the Securities of the series shall be issuable;
- (13) any and all other terms with respect to such series (which terms shall not be inconsistent with the terms of this Indenture, as amended by any supplemental indenture) including any terms which may be required by or advisable under United States laws or regulations or advisable in connection with the marketing of Securities of that series;
- (14) whether the Securities are issuable as a Global Security and, in such case, the identity of the Depository for such series;
- (15) whether the Securities will be convertible into shares of common stock or other securities of the Company and, if so, the terms and conditions upon which such Securities will be so convertible, including the conversion price and the conversion period;
- (16) if other than the principal amount thereof, the portion of the principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.01;
- (17) any additional or different Events of Default or restrictive covenants provided for with respect to the Securities of the series; and
- (18) the subordination terms of the Securities of the series.

All Securities of any one series shall be substantially identical except as to denomination and except as may otherwise be provided in or pursuant to any such Board Resolution or in any indentures supplemental hereto.

If any of the terms of the series are established by action taken pursuant to a Board Resolution of the Company, a copy of an appropriate record of such action shall be certified by the Secretary or an Assistant Secretary of the Company and delivered to the Trustee at or prior to the delivery of the Officers' Certificate of the Company setting forth the terms of the series.

Securities of any particular series may be issued at various times, with different dates on which the principal or any installment of principal is payable, with different rates of interest, if any, or different methods by which rates of interest may be determined, with different dates on which such interest may be payable and with different redemption dates.

SECTION 2.02 Form of Securities and Trustee's Certificate.

The Securities of any series and the Trustee's certificate of authentication to be borne by such Securities shall be substantially of the tenor and purport as set forth in one or more indentures supplemental hereto or as provided in a Board Resolution of the Company and as set forth in an Officers' Certificate of the Company and may have such letters, numbers or other marks of identification or designation and such legends or endorsements printed, lithographed or engraved thereon as the Company may deem appropriate and as are not inconsistent with the provisions of this

Indenture, or as may be required to comply with any law or with any rule or regulation made pursuant thereto or with any rule or regulation of any stock exchange on which Securities of that series may be listed, or to conform to usage.

SECTION 2.03 Denominations: Provisions for Payment.

The Securities shall be issuable as registered Securities and in the denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, subject to Section 2.01(a)(12). The Securities of a particular series shall bear interest payable on the dates and at the rate specified with respect to that series. The principal of and the interest on the Securities of any series, as well as any premium thereon in case of redemption thereof prior to maturity, shall be payable in the coin or currency of the United States of America that at the time is legal tender for public and private debt, at the office or agency of the Company maintained for that purpose in the Borough of Manhattan, the City and State of New York. Each Security shall be dated the date of its authentication. Interest on the Securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

The interest installment on any Security that is payable, and is punctually paid or duly provided for, on any Interest Payment Date for Securities of that series shall be paid to the Person in whose name said Security (or one or more Predecessor Securities) is registered at the close of business on the regular record date for such interest installment. In the event that any Security of a particular series or portion thereof is called for redemption and the redemption date is subsequent to a regular record date with respect to any Interest Payment Date and prior to such Interest Payment Date, interest on such Security will be paid upon presentation and surrender of such Security as provided in Section 3.03.

Any interest on any Security that is payable, but is not punctually paid or duly provided for, on any Interest Payment Date for Securities of the same series (herein called "Defaulted Interest") shall forthwith cease to be payable to the registered holder on the relevant regular record date by virtue of having been such holder; and such Defaulted Interest shall be paid by the Company, at its election, as provided in clause (1) or clause (2) below:

- (1) The Company may make payment of any Defaulted Interest on Securities to the Persons in whose names such Securities (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 notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security and the date of the proposed payment, and at the same time 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 provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall not be more than 15 nor 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 Securityholder at his or her address as it appears in the Security 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 mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered on such special record date.
- (2) The Company may make payment of any Defaulted Interest on any Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such 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, such manner of payment shall be deemed practicable by the Trustee.

Unless otherwise set forth in a Board Resolution of the Company or one or more indentures supplemental hereto establishing the terms of any series of Securities pursuant to Section 2.01 hereof, the term "regular record date" as used in this Section with respect to a series of Securities with respect to any Interest Payment Date for such series shall mean either the fifteenth day of the month immediately preceding the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the first day of a month, or the last day of the month immediately preceding the month in which an Interest Payment Date established for such series pursuant to Section 2.01 hereof shall occur, if such Interest Payment Date is the fifteenth day of a month, whether or not such date is a Business Day.

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

SECTION 2.04 Execution and Authentications.

The Securities shall be signed on behalf of the Company by its President, or one of its Vice Presidents, or its Treasurer, or one of its Assistant Treasurers, or its Secretary, or one of its Assistant Secretaries, under its corporate seal attested by its Secretary or one of its Assistant Secretaries. Signatures may be in the form of a manual or facsimile signature. The Company may use the facsimile signature of any Person who shall have been a President or Vice President thereof, or of any Person who shall have been a Treasurer or Assistant Treasurer thereof, or of any Person who shall have been a Secretary or Assistant Secretary thereof, notwithstanding the fact that at the time the Securities shall be authenticated and delivered or disposed of such Person shall have ceased to be the President or a Vice President, the Treasurer or an Assistant Treasurer or the Secretary or an Assistant Secretary, of the Company. The seal of the Company may be in the form of a facsimile of such seal and may be impressed, affixed, imprinted or otherwise reproduced on the Securities. The Securities may contain such notations, legends or endorsements required by law, stock exchange rule or usage. Each Security shall be dated the date of its authentication.

A Security shall not be valid or obligatory for any purpose and shall not be entitled to any benefit under this Indenture, in each case, until authenticated with a certificate of authentication manually signed by an authorized signatory of the Trustee, or by an Authenticating Agent. Such certificate shall be conclusive evidence, and the only evidence, that the Security so authenticated has been duly authenticated and delivered hereunder and that the Security is entitled to the benefits of this Indenture. At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a written order of the Company for the authentication and delivery of such Securities, signed by its President or any Vice President and its Secretary or any Assistant Secretary, and the Trustee in accordance with such written 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 7.01) shall be fully protected in relying upon, an Opinion of Counsel stating that the form and terms thereof have been established in conformity with the provisions of this Indenture.

The Trustee shall not be required to authenticate such Securities if the issue of such Securities pursuant to this Indenture will affect the Trustee's own rights, duties or immunities under the Securities and this Indenture or otherwise in a manner that is not reasonably acceptable to the Trustee.

SECTION 2.05 Registration of Transfer and Exchange.

- (a) Securities of any series may be exchanged upon presentation thereof at the office or agency of the Company designated for such purpose in the Borough of Manhattan, the City and State of New York, for other Securities of such series of authorized denominations, and for a like aggregate principal amount, upon payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, all as provided in this Section. In respect of any Securities so surrendered for exchange, the

Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in exchange therefor the Security or Securities of the same series that the Securityholder making the exchange shall be entitled to receive, bearing numbers not contemporaneously outstanding.

- (b) The Company shall keep, or cause to be kept, at its office or agency designated for such purpose in the Borough of Manhattan, the City and State of New York, or such other location designated by the Company a register or registers (herein referred to as the “Security Register”) in which, subject to such reasonable regulations as it may prescribe, the Company shall register the Securities and the transfers of Securities as in this Article provided and which at all reasonable times shall be open for inspection by the Trustee. The registrar for the purpose of registering Securities and transfer of Securities as herein provided shall be appointed as authorized by Board Resolution (the “Security Registrar”).

Upon surrender for transfer of any Security at the office or agency of the Company designated for such purpose, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in the name of the transferee or transferees a new Security or Securities of the same series as the Security presented for a like aggregate principal amount.

All Securities presented or surrendered for exchange or registration of transfer, as provided in this Section, shall be accompanied (if so required by the Company or the Security Registrar) by a written instrument or instruments of transfer, in form satisfactory to the Company or the Security Registrar, duly executed by the registered holder or by such holder’s duly authorized attorney in writing.

- (c) No service charge shall be made for any exchange or registration of transfer of Securities, or issue of new Securities in case of partial redemption of any series, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, other than exchanges pursuant to Section 2.06, Section 3.03(b) and Section 9.04 not involving any transfer.
- (d) The Company shall not be required (i) to issue, exchange or register the transfer of any Securities during a period beginning at the opening of business 15 days before the day of the mailing of a notice of redemption of less than all the Outstanding Securities of the same series and ending at the close of business on the day of such mailing, nor (ii) to register the transfer of or exchange any Securities of any series or portions thereof called for redemption. The provisions of this Section 2.05 are, with respect to any Global Security, subject to Section 2.11 hereof.

SECTION 2.06 Temporary Securities.

Pending the preparation of definitive Securities of any series, the Company may execute, and the Trustee shall authenticate and deliver, temporary Securities (printed, lithographed or typewritten) of any authorized denomination. Such temporary Securities shall be substantially in the form of the definitive Securities in lieu of which they are issued, but with such omissions, insertions and variations as may be appropriate for temporary Securities, all as may be determined by the Company. Every temporary Security of any series shall be executed by the Company and be authenticated by the Trustee upon the same conditions and in substantially the same manner, and with like effect, as the definitive Securities of such series. Without unnecessary delay the Company will execute and will furnish definitive Securities of such series and thereupon any or all temporary Securities of such series may be surrendered in exchange therefor (without charge to the holders), at the office or agency of the Company designated for the purpose in the Borough of Manhattan, the City and State of New York, and the Trustee shall authenticate and such office or agency shall deliver in exchange for such temporary Securities an equal aggregate principal amount of definitive Securities of such series, unless the Company advises the Trustee to the effect that definitive Securities need not be executed and furnished until further notice from the Company. Until so exchanged, the temporary Securities of such series shall be entitled to the same benefits under this Indenture as definitive Securities of such series authenticated and delivered hereunder.

SECTION 2.07 Mutilated, Destroyed, Lost or Stolen Securities.

In case any temporary or definitive Security shall become mutilated or be destroyed, lost or stolen, the Company (subject to the next succeeding sentence) shall execute, and upon the Company's request the Trustee (subject as aforesaid) shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substituted Security shall furnish to the Company and the Trustee such security or indemnity as may be required by them to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company and the Trustee evidence to their satisfaction of the destruction, loss or theft of the applicant's Security and of the ownership thereof. The Trustee may authenticate any such substituted Security and deliver the same upon the written request or authorization of any officer of the Company. Upon the issuance of any substituted Security, 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) connected therewith. In case any Security that has matured or is about to mature shall become mutilated or be destroyed, lost or stolen, the Company may, instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Security) if the applicant for such payment shall furnish to the Company and the Trustee such security or indemnity as they may require to save them harmless, and, in case of destruction, loss or theft, evidence to the satisfaction of the Company and the Trustee of the destruction, loss or theft of such Security and of the ownership thereof.

Every replacement Security issued pursuant to the provisions of this Section shall constitute an additional contractual obligation of the Company whether or not the mutilated, destroyed, lost or stolen Security shall be found at any time, or be enforceable by anyone, and shall be entitled to all the benefits of this Indenture equally and proportionately with any and all other Securities of the same series duly issued hereunder. All Securities shall be held and owned upon the express condition that the foregoing provisions are exclusive with respect to the replacement or payment of mutilated, destroyed, lost or stolen Securities, and shall preclude (to the extent lawful) any and all other rights or remedies, notwithstanding any law or statute existing or hereafter enacted to the contrary with respect to the replacement or payment of negotiable instruments or other securities without their surrender.

SECTION 2.08 Cancellation.

All Securities surrendered for the purpose of payment, redemption, exchange or registration of transfer shall, if surrendered to the Company or any paying agent, be delivered to the Trustee for cancellation, or, if surrendered to the Trustee, shall be cancelled by it, and no Securities shall be issued in lieu thereof except as expressly required or permitted by any of the provisions of this Indenture. On request of the Company at the time of such surrender, the Trustee shall deliver to the Company canceled Securities held by the Trustee. In the absence of such request the Trustee may dispose of canceled Securities in accordance with its standard procedures and deliver a certificate of disposition to the Company. If the Company shall otherwise acquire any of the Securities, however, such acquisition shall not operate as a redemption or satisfaction of the indebtedness represented by such Securities unless and until the same are delivered to the Trustee for cancellation.

SECTION 2.09 Benefits of Indenture.

Nothing in this Indenture or in the Securities, express or implied, shall give or be construed to give to any Person, other than the parties hereto and the holders of the Securities (and, with respect to the provisions of Article XIV, the holders of Senior Indebtedness, as defined in any supplement to this Indenture pursuant to Article XIV) any legal or equitable right, remedy or claim under or in respect of this Indenture, or under any covenant, condition or provision herein contained; all such covenants, conditions and provisions being for the sole benefit of the parties hereto and of the holders of the Securities (and, with respect to the provisions of Article XIV, the holders of Senior Indebtedness).

SECTION 2.10 Authenticating Agent.

So long as any of the Securities of any series remain Outstanding there may be an Authenticating Agent for any or all such series of Securities which the Trustee shall have the right to appoint. Said Authenticating Agent shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon exchange, 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. All references in this Indenture to the authentication of Securities by the Trustee shall be deemed to include authentication by an Authenticating Agent for such series. Each Authenticating Agent shall be acceptable to the Company and shall be a corporation that has a combined capital and surplus, as most recently reported or determined by it, sufficient under the laws of any jurisdiction

under which it is organized or in which it is doing business to conduct a trust business, and that is otherwise authorized under such laws to conduct such business and is subject to supervision or examination by Federal or State authorities. If at any time any Authenticating Agent shall cease to be eligible in accordance with these provisions, it shall resign immediately.

Any Authenticating Agent may at any time resign by giving written notice of resignation to the Trustee and to the Company. The Trustee may at any time (and upon request by the Company shall) terminate the agency of any Authenticating Agent by giving written notice of termination to such Authenticating Agent and to the Company. Upon resignation, termination or cessation of eligibility of any Authenticating Agent, the Trustee may appoint an eligible successor Authenticating Agent acceptable to the Company. Any successor Authenticating Agent, upon acceptance of its appointment hereunder, shall become vested with all the rights, powers and duties of its predecessor hereunder as if originally named as an Authenticating Agent pursuant hereto.

SECTION 2.11 Global Securities

- (a) If the Company shall establish pursuant to Section 2.01 that some or all of the Securities of a particular series are to be issued as a Global Security, then the Company shall execute and the Trustee shall, in accordance with Section 2.04, authenticate and deliver, a Global Security that (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, the Outstanding Securities of such series which are to be issued as a Global Security, (ii) shall be registered in the name of the Depository or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction and (iv) shall bear a legend substantially to the following effect: "Except as otherwise provided in Section 2.11 of the Indenture, this Security may be transferred, in whole but not in part, only to another nominee of the Depository or to a successor Depository or to a nominee of such successor Depository."
- (b) Notwithstanding the provisions of Section 2.05, the Global Security of a series may be transferred, in whole but not in part and in the manner provided in Section 2.05, only to another nominee of the Depository for such series, or to a successor Depository for such series selected or approved by the Company or to a nominee of such successor Depository.
- (c) If at any time the Depository for a series of the Securities notifies the Company that it is unwilling or unable to continue as Depository for such series or if at any time the Depository for such series shall no longer be registered or in good standing under the Exchange Act, or other applicable statute or regulation, and a successor Depository for such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such condition, as the case may be, this Section 2.11 shall no longer be applicable to the Securities of such series and the Company will execute, and subject to Section 2.05, the Trustee will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. In addition, the Company may at any time determine that the Securities of any series shall no longer be represented by a Global Security and that the provisions of this Section 2.11 shall no longer apply to the Securities of such series. In such event the Company will execute and subject to Section 2.05, the Trustee, upon receipt of an Officers' Certificate evidencing such determination by the Company, will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. Upon the exchange of the Global Security for such Securities in definitive registered form without coupons, in authorized denominations, the Global Security shall be canceled by the Trustee. Such Securities in definitive registered form issued in exchange for the Global Security pursuant to this Section 2.11(c) shall be registered in such names and in such authorized denominations as the Depository, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct

the Trustee. The Trustee shall deliver such Securities to the Depository for delivery to the Persons in whose names such Securities are so registered.

ARTICLE III

REDEMPTION OF SECURITIES AND SINKING FUND PROVISIONS

SECTION 3.01 Redemption.

The Company may redeem the Securities of any series issued hereunder on and after the dates and in accordance with the terms established for such series pursuant to Section 2.01 hereof.

SECTION 3.02 Notice of Redemption.

- (a) In case the Company shall desire to exercise such right to redeem all or, as the case may be, a portion of the Securities of any series in accordance with the right reserved so to do, the Company shall, or shall cause the Trustee to, give notice of such redemption to holders of the Securities of such series to be redeemed by mailing, first class postage prepaid, a notice of such redemption not less than 30 days and not more than 90 days before the date fixed for redemption of that series to such holders at their last addresses as they shall appear upon the Security Register unless a shorter period is specified in the Securities to be redeemed. Any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the registered holder receives the notice. In any case, failure duly to give such notice to the holder of any Security of any series designated for redemption in whole or in part, or any defect in the notice, shall not affect the validity of the proceedings for the redemption of any other Securities of such series or any other series. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officers' Certificate evidencing compliance with any such restriction.

Each such notice of redemption shall specify the date fixed for redemption and the redemption price at which Securities of that series are to be redeemed, and shall state that payment of the redemption price of such Securities to be redeemed will be made at the office or agency of the Company in the Borough of Manhattan, the City and State of New York, upon presentation and surrender of such Securities, that interest accrued to the date fixed for redemption will be paid as specified in said notice, that from and after said date interest will cease to accrue and that the redemption is for a sinking fund, if such is the case. If less than all the Securities of a series are to be redeemed, the notice to the holders of Securities of that series to be redeemed in whole or in part shall specify the particular Securities to be so redeemed. In case any Security is to be redeemed in part only, the notice that relates to such Security shall state the portion of the principal amount thereof to be redeemed, and shall state that on and after the redemption date, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

- (b) If less than all the Securities of a series are to be redeemed, the Company shall give the Trustee at least 30 days' notice in advance of the date fixed for redemption as to the aggregate principal amount of Securities of the series to be redeemed, and thereupon the Trustee shall select, by lot or in such other manner as it shall deem appropriate and fair in its discretion and that may provide for the selection of a portion or portions (equal to one thousand U.S. dollars (\$1,000) or any integral multiple thereof) of the principal amount of such Securities of a denomination larger than \$1,000, the Securities to be redeemed and shall thereafter promptly notify the Company in writing of the numbers of the Securities to be redeemed, in whole or in part. The Company may, if and whenever it shall so elect, by delivery of instructions signed on its behalf by its President or any Vice President, instruct the Trustee or any paying agent to call all or any part of the Securities of a particular series for redemption and to give notice of redemption in the manner set forth in this Section, such notice to be in the name of the Company or its own name as the Trustee or such paying agent may deem

advisable. In any case in which notice of redemption is to be given by the Trustee or any such paying agent, the Company shall deliver or cause to be delivered to, or permit to remain with, the Trustee or such paying agent, as the case may be, such Security Register, transfer books or other records, or suitable copies or extracts therefrom, sufficient to enable the Trustee or such paying agent to give any notice by mail that may be required under the provisions of this Section.

SECTION 3.03 Payment Upon Redemption.

- (a) If the giving of notice of redemption shall have been completed as above provided, the Securities or portions of Securities of the series to be redeemed specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption and interest on such Securities or portions of Securities shall cease to accrue on and after the date fixed for redemption, unless the Company shall default in the payment of such redemption price and accrued interest with respect to any such Security or portion thereof. On presentation and surrender of such Securities on or after the date fixed for redemption at the place of payment specified in the notice, said Securities shall be paid and redeemed at the applicable redemption price for such series, together with interest accrued thereon to the date fixed for redemption (but if the date fixed for redemption is an interest payment date, the interest installment payable on such date shall be payable to the registered holder at the close of business on the applicable record date pursuant to Section 2.03).
- (b) Upon presentation of any Security of such series that is to be redeemed in part only, the Company shall execute and the Trustee shall authenticate and the office or agency where the Security is presented shall deliver to the holder thereof, at the expense of the Company, a new Security of the same series of authorized denominations in principal amount equal to the unredeemed portion of the Security so presented.

SECTION 3.04 Sinking Fund.

The provisions of Sections 3.04, 3.05 and 3.06 shall be applicable to any sinking fund for the retirement of Securities of a series, except as otherwise specified as contemplated by Section 2.01 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 3.05. 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 3.05 Satisfaction of Sinking Fund Payments with Securities.

The Company (i) may deliver Outstanding Securities of a series (other than any Securities previously called for redemption) and (ii) may apply as a credit Securities of a series that 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 3.06 Redemption of Securities for Sinking Fund.

Not less than 45 days prior to each sinking fund payment date for any series of Securities, the Company will deliver to the Trustee an Officers' Certificate specifying the amount of the next ensuing sinking fund payment for that

series pursuant to the terms of the series, the portion thereof, if any, that is to be satisfied by delivering and crediting Securities of that series pursuant to Section 3.05 and the basis for such credit and will, together with such Officers' Certificate, 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 3.02 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 3.02. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 3.03.

ARTICLE IV

COVENANTS

SECTION 4.01 Payment of Principal, Premium and Interest.

The Company will duly and punctually pay or cause to be paid the principal of (and premium, if any) and interest on the Securities of that series at the time and place and in the manner provided herein and established with respect to such Securities.

SECTION 4.02 Maintenance of Office or Agency.

So long as any series of the Securities remain Outstanding, the Company agrees to maintain an office or agency in the Borough of Manhattan, the City and State of New York, with respect to each such series and at such other location or locations as may be designated as provided in this Section 4.02, where (i) Securities of that series may be presented or surrendered for payment, (ii) Securities of that series may be presented as herein above authorized for registration of transfer and exchange, and (iii) notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be given or served, such designation to continue with respect to such office or agency until the Company shall, by written notice signed by its President or a Vice President and delivered to the trustee, designate some other office or agency for such purposes or any of them. 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, 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, notices and demands.

SECTION 4.03 Paying Agents.

- (a) If the Company shall appoint one or more paying agents for all or any series of the Securities, other than the Trustee, the Company will cause each such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:
- (1) that it will hold all sums held by it as such agent for the payment of the principal of (and premium, if any) or interest on the Securities of that series (whether such sums have been paid to it by the Company or by any other obligor of such Securities) in trust for the benefit of the Persons entitled thereto;
 - (2) that it will give the Trustee notice of any failure by the Company (or by any other obligor of such Securities) to make any payment of the principal of (and premium, if any) or interest on the Securities of that series when the same shall be due and payable;
 - (3) that it will, at any time during the continuance of any failure referred to in the preceding paragraph (a)(2) above, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent; and
 - (4) that it will perform all other duties of paying agent as set forth in this Indenture.

- (b) If the Company shall act as its own paying agent with respect to any series of the Securities, it will on or before each due date of the principal of (and premium, if any) or interest on Securities of that series, set aside, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient with monies held by all other paying agents to pay such principal (and premium, if any) or interest so becoming due on Securities of that series until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of such action, or any failure (by it or any other obligor on such Securities) to take such action. Whenever the Company shall have one or more paying agents for any series of Securities, it will, prior to each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with the paying agent a sum sufficient to pay the principal (an premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of this action or failure so to act.
- (c) Notwithstanding anything in this Section to the contrary, (i) the agreement to hold sums in trust as provided in this Section is subject to the provisions of Section 11.05, and (ii) the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or 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 terms and conditions 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.

SECTION 4.04 Appointment to Fill Vacancy in Office of Trustee.

The Company, whenever necessary to avoid or fill a vacancy in the office of Trustee, will appoint, in the manner provided in Section 7.10, a Trustee, so that there shall at all times be a Trustee hereunder.

SECTION 4.05 Compliance with Consolidation Provisions.

The Company will not, while any of the Securities remain Outstanding, consolidate with or merge into any other Person, in either case where the Company is not the survivor of such transaction, or sell or convey all or substantially all of its property to any other company unless the provisions of Article X hereof are complied with.

ARTICLE V

SECURITYHOLDERS' LISTS AND REPORTS BY THE COMPANY AND THE TRUSTEE

SECTION 5.01 Company to Furnish Trustee Names and Addresses of Securityholders.

If the Company is not the Security Register, the Company will furnish or use reasonable efforts to cause to be furnished to the Trustee (a) on each regular record date (as defined in Section 2.03) a list, in such form as the Trustee may reasonably require, of the names and addresses of the holders of each series of Securities as of such regular record date, provided that the Company shall not be obligated to furnish or cause to furnish such list at any time that the list shall not differ in any respect from the most recent list furnished to the Trustee by the Company and (b) at such other times as the Trustee may request in writing within 30 days after the receipt by the Company of any such request, a list of similar form and content as of a date not more than 15 days prior to the time such list is furnished; provided, however, that, in either case, no such list need be furnished for any series for which the Trustee shall be the Security Registrar.

SECTION 5.02 Preservation of Information; Communications with Securityholders.

- (a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Securities contained in the most recent list furnished to it as

provided in Section 5.01 and as to the names and addresses of holders of Securities received by the Trustee in its capacity as Security Registrar (if acting in such capacity) and shall otherwise comply with Section 312(a) of the Trust Indenture Act.

- (b) The Trustee may destroy any list furnished to it as provided in Section 5.01 upon receipt of a new list so furnished.
- (c) Securityholders may communicate as provided in Section 312(b) of the Trust Indenture Act with other Securityholders with respect to their rights under this Indenture or under the Securities.

SECTION 5.03 Reports by the Company.

- (a) The Company covenants and agrees to file with the Trustee, within 15 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) that the Company may be required to file with the Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; 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 the rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports that may be required pursuant to Section 13 of the Exchange Act, 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; provided, however, the Company shall not be required to deliver to the Trustee any materials for which the Company has sought and received confidential treatment by the Commission. The Company also shall comply with the other provisions of Section 314(a) of the Trust Indenture Act.
- (b) The Company covenants and agrees 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.
- (c) The Company covenants and agrees to transmit by mail, first class postage prepaid, or reputable over-night delivery service that provides for evidence of receipt, to the Securityholders, as their names and addresses appear upon the Security Register, within 30 days after the filing thereof with the Trustee, such summaries of any information, documents and reports required to be filed by the Company pursuant to subsections (a) and (b) of this Section as may be required by rules and regulations prescribed from time to time by the Commission.

SECTION 5.04 Reports by the Trustee.

- (a) The Trustee shall transmit to holders as provided in Section 313 of the Trust Indenture Act such reports concerning the Trustee and its actions under this Indenture as may be required by Section 313 of the Trust Indenture Act at the times and in the manner provided by the Trust Indenture Act.
- (b) A copy of each such report shall, at the time of such transmission to Securityholders, be filed by the Trustee with the Company, with each stock exchange upon which any Securities are listed (if so listed) and, if required by Section 313 of the Trust Indenture Act, also with the Commission. The Company agrees to notify the Trustee when any Securities become listed on any stock exchange.

ARTICLE VI

REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

SECTION 6.01 Events of Default.

- (a) Whenever used herein with respect to Securities of a particular series, “Event of Default” means any one or more of the following events that has occurred and is continuing:
 - (1) the Company defaults in the payment of any installment of interest upon any of the Securities of that series, as and when the same shall become due and payable, and continuance of such default for a period of 90 days; provided, however, that a valid extension of an interest payment period by the Company in accordance with the terms of any

indenture supplemental hereto shall not constitute a default in the payment of interest for this purpose;

- (2) the Company defaults in the payment of the principal of (or premium, if any, on) any of the Securities of that series as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to that series; provided, however, that a valid extension of the maturity of such Securities in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of principal or premium, if any;
 - (3) the Company fails to observe or perform any other of its covenants or agreements with respect to that series contained in this Indenture or otherwise established with respect to that series of Securities pursuant to Section 2.01 hereof (other than a covenant or agreement that has been expressly included in this Indenture solely for the benefit of one or more series of Securities other than such series) for a period of 90 days after the date on which written notice of such failure, requiring the same to be remedied and stating that such notice is a "Notice of Default" hereunder, shall have been given to the Company by the Trustee, by registered or certified mail, or to the Company and the Trustee by the holders of not less than a majority in principal amount of the Securities of that series at the time Outstanding;
 - (4) the Company pursuant to or within the meaning of any Bankruptcy Law (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property or (iv) makes a general assignment for the benefit of its creditors; or
 - (5) a court of competent jurisdiction enters an order under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company for all or substantially all of its property, or (iii) orders the liquidation of the Company, and the order or decree remains unstayed and in effect for 90 consecutive days.
- (b) In each and every such case, unless the principal of all the Securities of that series shall have already become due and payable, either the Trustee or the holders of not less than a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder, by notice in writing to the Company (and to the Trustee if given by such Securityholders), may declare the principal (or, if any Securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series pursuant to Section 2.01(a)(16)) of (and premium, if any, on) and accrued and unpaid interest, if any, on all the Securities of that series to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable. Notwithstanding the foregoing, the payment of such principal (or, if any Securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series pursuant to Section 2.01(a)(16)) of (and premium, if any, on) and accrued and unpaid interest, if any, on the Securities of such series shall remain subordinated to the extent provided in Article XIV.
- (c) At any time after the principal of the Securities of that series shall have been so declared due and payable, and before a judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the holders of a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder (or, by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting), by written notice to the Company and the Trustee, may rescind and annul such declaration and its

consequences if: (i) the Company has paid or deposited with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of that series and the principal of (and premium, if any, on) any and all Securities of that series that shall have become due otherwise than by acceleration and (ii) any and all Events of Default under this Indenture with respect to such series, other than the nonpayment of principal of (and premium, if any, on) and accrued and unpaid interest, if any, on Securities of that series that shall have become due solely because of such acceleration, shall have been remedied, cured or waived as provided in Section 6.06. No such rescission and annulment shall extend to or shall affect any subsequent default or impair any right consequent thereon.

- (d) In case the Trustee shall have proceeded to enforce any right with respect to Securities of that series under this Indenture and such proceedings shall have been discontinued or abandoned because of such rescission or annulment or for any other reason or shall have been determined adversely to the Trustee, then and in every such case, subject to any determination in such proceedings, the Company, and the Trustee shall be restored respectively to their former positions and rights hereunder, and all rights, remedies and powers of the Company and the Trustee shall continue as though no such proceedings had been taken.

SECTION 6.02 Collection of Indebtedness and Suits for Enforcement by Trustee.

- (a) The Company covenants that (1) in case it shall default in the payment of any installment of interest on any of the Securities of a series, or any payment required by any sinking or analogous fund established with respect to that series as and when the same shall have become due and payable, and such default shall have continued for a period of 90 Business Days, or (2) in case it shall default in the payment of the principal of (or premium, if any, on) any of the Securities of a series when the same shall have become due and payable, whether upon maturity of the Securities of a series or upon redemption or upon declaration or otherwise, then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Securities of that series, the whole amount that then shall have become due and payable on all such Securities for principal (and premium, if any) or interest, or both, as the case may be, with interest upon the overdue principal (and premium, if any) and (to the extent that payment of such interest is enforceable under applicable law) upon overdue installments of interest at the rate per annum expressed in the Securities of that series; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and the amount payable to the Trustee under Section 7.06.
- (b) If the Company shall fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or other obligor upon the Securities of that series and collect the moneys adjudged or decreed to be payable in the manner provided by law out of the property of the Company or other obligor upon the Securities of that series, wherever situated.
- (c) In case of any receivership, insolvency, liquidation, bankruptcy, reorganization, readjustment, arrangement, composition or judicial proceedings affected the Company, or its creditors or property, the Trustee shall have power to intervene in such proceedings and take any action therein that may be permitted by the court and shall (except as may be otherwise provided by law) be entitled to file such proofs of claim and other papers and documents as may be necessary or advisable in order to have the claims of the Trustee and of the holders of Securities of such series allowed for the entire amount due and payable by the Company under this Indenture at the date of institution of such proceedings and for any additional amount that may become due and payable by the Company after such date, and to collect and receive any moneys or other property payable or deliverable on any such claim, and to

distribute the same after the deduction of the amount payable to the Trustee under Section 7.06; and any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized by each of the holders of Securities of such series to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to such Securityholders, to pay to the Trustee any amount due it under Section 7.06.

- (d) All rights of action and of asserting claims under this Indenture, or under any of the terms established with respect to Securities of that series, may be enforced by the Trustee without the possession of any of such Securities, or the production thereof at any trial or other proceeding relative thereto, and any such suit or proceeding instituted by the Trustee shall be brought in its own name as trustee of an express trust, and any recovery of judgment shall, after provision for payment to the Trustee of any amounts due under Section 7.06, be for the ratable benefit of the holders of the Securities of such series.

In case of an Event of Default hereunder, the Trustee may in its discretion proceed to protect and enforce the rights vested in it by this Indenture by such appropriate judicial proceedings as the Trustee shall deem most effectual to protect and enforce any of such rights, either at law or in equity or in bankruptcy or otherwise, whether for the specific enforcement of any covenant or agreement contained in this Indenture or in aid of the exercise of any power granted in this Indenture, or to enforce any other legal or equitable right vested in the Trustee by this Indenture or by law.

Nothing contained herein shall be deemed to authorize the Trustee to authorize or consent to or accept or adopt on behalf of any Securityholder any plan of reorganization, arrangement, adjustment or composition affecting the Securities of that series or the rights of any holder thereof or to authorize the Trustee to vote in respect of the claim of any Securityholder in any such proceeding.

SECTION 6.03 Application of Moneys Collected.

Any moneys collected by the Trustee pursuant to this Article with respect to a particular series of Securities shall be applied in the following order, at the date or dates fixed by the Trustee and, in case of the distribution of such moneys on account of principal (or premium, if any) or interest, upon presentation of the Securities of that series, and notation thereon the payment, if only partially paid, and upon surrender thereof if fully paid:

- FIRST: To the payment of costs and expenses of collection and of all amounts payable to the Trustee under Section 7.06;
- SECOND: To the payment of all Senior Indebtedness of the Company if and to the extent required by Article XIV; and
- THIRD: To the payment of the amounts then due and unpaid upon Securities of such series for principal (and premium, if any) and interest, in respect of which or for the benefit of which such money has been collected, ratably, without preference or priority of any kind, according to the amounts due and payable on such Securities for principal (and premium, if any) and interest, respectively.

SECTION 6.04 Limitation on Suits.

No holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless (i) such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof with respect to the Securities of such series specifying such Event of Default, as hereinbefore provided; (ii) the holders of not less than a majority in aggregate principal amount of the Securities of such series then Outstanding shall have made written request upon the Trustee to institute such action, suit or proceeding in its own name as trustee hereunder; (iii) such holder or holders shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby; and (iv) the Trustee for 60 days after its receipt of such notice, request and offer of indemnity, shall have failed to institute any such action, suit or proceeding and (v) during such 60 day period, the holders of a majority in principal amount of the Securities of that series (or such amount as shall have acted at a

meeting of the holders of Securities of such series pursuant to the provisions of this Indenture) do not give the Trustee a direction inconsistent with the request; provided, however, that no one or more of such holders may use this Indenture to prejudice the rights of another holder or to obtain preference or priority over another holder.

Notwithstanding anything contained herein to the contrary, any other provisions of this Indenture, the right of any holder of any Security to receive payment of the principal of (and premium, if any) and interest on such Security, as therein provided, on or after the respective due dates expressed in such Security (or in the case of redemption, on the redemption date), or to institute suit for the enforcement of any such payment on or after such respective dates or redemption date, shall not be impaired or affected without the consent of such holder and by accepting a Security hereunder it is expressly understood, intended and covenanted by the taker and holder of every Security of such series with every other such taker and holder and the Trustee, that no one or more holders of Securities of such series shall have any right in any manner whatsoever by virtue or by availing of any provision of this Indenture to affect, disturb or prejudice the rights of the holders of any other of such Securities, or to obtain or seek to obtain priority over or preference to any other such holder, or to enforce any right under this Indenture, except in the manner herein provided and for the equal, ratable and common benefit of all holders of Securities of such series. For the protection and enforcement of the provisions of this Section, each and every Securityholder and the Trustee shall be entitled to such relief as can be given either at law or in equity.

SECTION 6.05 Rights and Remedies Cumulative; Delay or Omission Not Waiver.

- (a) Except as otherwise provided in Section 2.07, all powers and remedies given by this Article to the Trustee or to the Securityholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any other powers and remedies available to the Trustee or the holders of the Securities, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture or otherwise established with respect to such Securities.
- (b) No delay or omission of the Trustee or of any holder of any of the Securities to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or on acquiescence therein; and, subject to the provisions of Section 6.04, every power and remedy given by this Article or by law to the Trustee or the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

SECTION 6.06 Control by Securityholders.

The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding, determined in accordance with Section 8.01, 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 the Trustee with respect to such series; provided, however, that such direction shall not be in conflict with any rule of law or with this Indenture or be unduly prejudicial to the rights of holders of Securities of any other series at the time Outstanding determined in accordance with Section 8.01. Subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer or Officers of the Trustee, determine that the proceeding so directed would involve the Trustee in personal liability.

The holders either (a) through the written consent of not less than a majority in aggregate principal amount of the Securities of any series at the time Outstanding or (b) by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, by the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting, may on behalf of the holders of all of the Securities of such series waive any past default in the performance of any of the covenants contained herein or established pursuant to Section 2.01 with respect to such series and its consequences, except a default in the payment of the principal of, or premium, if any, or interest on, any of the Securities of that series as and when the same shall become due by the terms of such Securities otherwise than by acceleration (unless such default has been cured and a sum sufficient to pay all matured installments of interest and principal and any premium has been deposited with the Trustee (in accordance with Section 6.01(c)) and except in respect a provision hereof which, under Section 9.02, cannot be modified or amended without the consent of the holders of each Outstanding Security affected; provided however that this Section shall not limit the right of holders of Securities of a series to rescind and annul any acceleration as set forth in Section 6.01. Upon any such waiver, the default covered thereby shall be deemed to be cured for all purposes of this Indenture and the

Company, the Trustee and the holders of the Securities of such series shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon. The provisions which otherwise would be automatically deemed to be contained in this Indenture pursuant to Section 316(a)(1) of the Trust Indenture Act are hereby expressly excluded from this Indenture, except to the extent such provisions are expressly included herein.

SECTION 6.07 Undertaking to Pay Costs.

All parties to this Indenture agree, and each holder of any Securities by such holder's acceptance thereof shall be deemed to have agreed, that any court may in its discretion require, in any suit for the enforcement of any right or remedy under this Indenture, or in any suit against the Trustee for any action taken or omitted by it as Trustee, the filing by any party litigant in such suit of an undertaking to pay the costs of such suit, and that such court may in its discretion assess reasonable costs, including reasonable attorneys' fees, against any party litigant in such suit, having due regard to the merits and good faith of the claims or defenses made by such party litigant; but the provisions of this Section shall not apply to any suit instituted by the Trustee, to any suit instituted by any Securityholder, or group of Securityholders, holding more than 10% in aggregate principal amount of the Outstanding Securities of any series, or to any suit instituted by any Securityholder for the enforcement of the payment of the principal of (or premium, if any) or interest on any Security of such series, on or after the respective due dates expressed in such Security or established pursuant to this Indenture.

ARTICLE VII

CONCERNING THE TRUSTEE

SECTION 7.01 Certain Duties and Responsibilities of Trustee.

- (a) The Trustee, prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing of all Events of Default with respect to the Securities of that series that may have occurred, shall undertake to perform with respect to the Securities of such series such duties and only such duties as are specifically set forth in this Indenture, and no implied covenants shall be read into this Indenture against the Trustee. In case an Event of Default with respect to the Securities of a series has occurred (that has not been cured or waived), the Trustee shall exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs.
- (b) 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 with respect to the Securities of a series and after the curing or waiving of all such Events of Default with respect to that series that may have occurred:
 - (i) the duties and obligations of the Trustee shall with respect to the Securities of such series be determined solely by the express provisions of this Indenture, and the Trustee shall not be liable with respect to the Securities of such series 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
 - (ii) in the absence of bad faith on the part of the Trustee, the Trustee may with respect to the Securities of such series 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 provision 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 requirement of this Indenture;

- (2) the Trustee shall not be liable for any error of judgment made in good faith by a Responsible Officer or Responsible Officers of the Trustee, unless it shall be proved that the Trustee, was negligent in ascertaining the pertinent facts;
- (3) 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 in principal amount of the Securities of any series 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 with respect to the Securities of that series; and
- (4) None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers, if there is reasonable ground for believing that the repayment of such funds or liability is not reasonably assured to it under the terms of this Indenture or adequate indemnity against such risk is not reasonably assured to it.

SECTION 7.02 Certain Rights of Trustee.

Except as otherwise provided in Section 7.01:

- (a) The Trustee may rely and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;
- (b) Any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by a Board Resolution or an instrument signed in the name of the Company, by the President or any Vice President and by the Secretary or an Assistant Secretary or the Treasurer or an Assistant Treasurer thereof (unless other evidence in respect thereof is specifically prescribed herein);
- (c) The Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or suffered or omitted hereunder in good faith and in reliance thereon;
- (d) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders, pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby; nothing contained herein shall, however, relieve the Trustee of the obligation, upon the occurrence of an Event of Default with respect to a series of the Securities (that has not been cured or waived) to exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and to use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs;

- (e) The Trustee shall not be liable for any action taken or omitted to be taken by it in good faith and believed by it to be authorized or within the discretion or rights or powers conferred upon it by this Indenture;
- (f) 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, consent, order, approval, bond, security, or other papers or documents, unless requested in writing so to do by the holders of not less than a majority in principal amount of the Outstanding Securities of the particular series affected thereby (determined as provided in Section 8.04); provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity against such costs, expenses or liabilities as a condition to so proceeding. The reasonable expense of every such examination shall be paid by the Company or, if paid by the Trustee, shall be repaid by the Company upon demand; and
- (g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder.

SECTION 7.03 Trustee Not Responsible for Recitals or Issuance of Securities.

- (a) The recitals contained herein and in the Securities shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same.
- (b) The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities.
- (c) The Trustee shall not be accountable for the use or application by the Company of any of the Securities or of the proceeds of such Securities, or for the use or application of any moneys paid over by the Trustee in accordance with any provision of this Indenture or established pursuant to Section 2.01, or for the use or application of any moneys received by any paying agent other than the Trustee.

SECTION 7.04 May Hold Securities.

The Trustee or any paying agent or Security Registrar, in its individual or any other capacity, may become the owner or pledgee of Securities with the same rights it would have if it were not Trustee, paying agent or Security Registrar.

SECTION 7.05 Moneys Held in Trust.

Subject to the provisions of Section 11.05, 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 interest on any moneys received by it hereunder except such as it may agree with the Company to pay thereon.

SECTION 7.06 Compensation and Reimbursement.

- (a) The Company covenants and agrees to pay to the Trustee, and the Trustee shall be entitled to, such reasonable compensation (which shall not be limited by any provision of law in regard to the compensation of a trustee of an express trust), as the Company, and the Trustee may from time to time agree in writing, for all services rendered by it in the execution of the trusts hereby created and in the exercise and performance of any of the powers and duties hereunder of the Trustee, and, except as otherwise expressly provided herein, the Company will pay or reimburse the Trustee upon its request

for all reasonable expenses, disbursements and advances incurred or made by the Trustee in accordance with any of the provisions of this Indenture (including the reasonable compensation and the expenses and disbursements of its counsel and of all Persons not regularly in its employ) except any such expense, disbursement or advance as may arise from its negligence or bad faith. The Company also covenants to indemnify the Trustee (and its officers, agents, directors and employees) for, and to hold it harmless against, any loss, liability or expense incurred without negligence or bad faith on the part of the Trustee and arising out of or in connection with the acceptance or administration of this trust, including the costs and expenses of defending itself against any claim of liability in the premises.

- (b) The obligations of the Company under this Section to compensate and indemnify the Trustee and to pay or reimburse the Trustee for expenses, disbursements and advances shall constitute additional indebtedness hereunder. Such additional indebtedness shall be secured by a lien prior to that of the Securities upon all property and funds held or collected by the Trustee as such, except funds held in trust for the benefit of the holders of particular Securities.

SECTION 7.07 Reliance on Officers' Certificate.

Except as otherwise provided in Section 7.01, whenever in the administration of the provisions of this Indenture the Trustee shall deem it necessary or desirable that a matter be proved or established prior to taking or suffering or omitting to take any action hereunder, such matter (unless other evidence in respect thereof be herein specifically prescribed) may, in the absence of negligence or bad faith on the part of the Trustee, be deemed to be conclusively proved and established by an Officers' Certificate delivered to the Trustee and such certificate, in the absence of negligence or bad faith on the part of the Trustee, shall be full warrant to the Trustee for any action taken, suffered or omitted to be taken by it under the provisions of this Indenture upon the faith thereof.

SECTION 7.08 Disqualification; Conflicting Interests.

If the Trustee has or shall acquire any "conflicting interest" within the meaning of Section 310(b) of the Trust Indenture Act, the Trustee and the Company shall in all respects comply with the provisions of Section 310(b) of the Trust Indenture Act.

SECTION 7.09 Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee with respect to the Securities issued hereunder which shall at all times be a corporation organized and doing business under the laws of the United States of America or any State or Territory thereof or of the District of Columbia, or a corporation or other Person permitted to act as trustee by the Commission, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least 50 million U.S. dollars (\$50,000,000), and subject to supervision or examination by Federal, State, Territorial, or District of Columbia authority. If such corporation publishes reports of condition at least annually, pursuant to law or to the requirements of the aforesaid 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. The Company may not, nor may any Person directly or indirectly controlling, controlled by, or under common control with the Company, serve as Trustee. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 7.10.

SECTION 7.10 Resignation and Removal; Appointment of Successor.

- (a) The Trustee or any successor hereafter appointed, may at any time resign with respect to the Securities of one or more series by giving written notice thereof to the Company and by transmitting notice of resignation by mail, first class postage prepaid, to the Securityholders of such series, as their names and addresses appear upon the Security Register. Upon receiving such notice of resignation, the Company shall promptly appoint a successor trustee with respect to Securities of such series by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which

instrument shall be delivered to the resigning Trustee and one copy to the successor trustee. If no successor trustee shall have been so appointed and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor trustee with respect to Securities of such series, or any Securityholder of that series who has been a bona fide holder of a Security or Securities for at least six months may on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.

- (b) In case at any time any one of the following shall occur:
- (1) the Trustee shall fail to comply with the provisions of Section 7.08 after written request therefor by the Company or by any Securityholder who has been a bona fide holder of a Security or Securities for at least six months; or
 - (2) the Trustee shall cease to be eligible in accordance with the provisions of Section 7.09 and shall fail to resign after written request therefor by the Company or by any such Securityholder; or
 - (3) the Trustee shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or commence a voluntary bankruptcy proceeding, or a receiver of the Trustee or of its property shall be appointed or consented to, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation, then, in any such case, the Company may remove the Trustee with respect to all Securities and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or, unless the Trustee's duty to resign is stayed as provided herein, any Securityholder who has been a bona fide holder of a Security or Securities for at least six months may, on behalf of that holder and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.
- (c) The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding may at any time remove the Trustee with respect to such series by so notifying the Trustee and the Company and may appoint a successor Trustee for such series with the consent of the Company.
- (d) Any resignation or removal of the Trustee and appointment of a successor trustee with respect to the Securities of a series pursuant to any of the provisions of this Section shall become effective upon acceptance of appointment by the successor trustee as provided in Section 7.11.
- (e) Any successor trustee appointed pursuant to this Section may be appointed with respect to the Securities of one or more series or all of such series, and at any time there shall be only one Trustee with respect to the Securities of any particular series.

SECTION 7.11 Acceptance of Appointment By Successor.

- (a) In case of the appointment hereunder of a successor trustee with respect to all Securities, every such successor trustee so appointed shall execute, acknowledge and deliver to the Company and to the retiring Trustee an instrument accepting such appointment, and thereupon the resignation or removal

of the retiring Trustee shall become effective and 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; 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 each successor trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor trustee shall accept such appointment and which (1) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each 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, (2) 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 (3) 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, 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 that no Trustee shall be responsible for any act or failure to act on the part of any other Trustee hereunder; 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, such retiring Trustee shall with respect to the Securities of that or those series to which the appointment of such successor trustee relates have no further responsibility for the exercise of rights and powers or for the performance of the duties and obligations vested in the Trustee under this Indenture, 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, to the extent contemplated by such supplemental indenture, the 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) Upon request of any such successor trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor trustee all such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.
- (d) No successor trustee shall accept its appointment unless at the time of such acceptance such successor trustee shall be qualified and eligible under this Article.
- (e) Upon acceptance of appointment by a successor trustee as provided in this Section, the Company shall transmit notice of the succession of such trustee hereunder by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register. If the Company fails to transmit such notice within ten days after acceptance of appointment by the successor trustee, the successor trustee shall cause such notice to be transmitted at the expense of the Company.

SECTION 7.12 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 the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 7.08 and eligible under the provisions of Section 7.09, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding. 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 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 7.13 Preferential Collection of Claims Against the Company.

The Trustee shall comply with Section 311(a) of the Trust Indenture Act, excluding any creditor relationship described in Section 311(b) of the Trust Indenture Act. A Trustee who has resigned or been removed shall be subject to Section 311(a) of the Trust Indenture Act to the extent included therein.

ARTICLE VIII

CONCERNING THE SECURITYHOLDERS

SECTION 8.01 Evidence of Action by Securityholders.

Whenever in this Indenture it is provided that the holders of a majority or specified percentage in aggregate principal amount of the Securities of a particular series may take any action (including the making of any demand or request, the giving of any notice, consent or waiver or the taking of any other action), the fact that at the time of taking any such action the holders of such majority or specified percentage of that series have joined therein may be evidenced by any instrument or any number of instruments of similar tenor executed by such holders of Securities of that series in Person or by agent or proxy appointed in writing.

If the Company shall solicit from the Securityholders of any series any request, demand, authorization, direction, notice, consent, waiver or other action, the Company may, at its option, as evidenced by an Officers' Certificate, fix in advance a record date for such series for the determination of Securityholders entitled to give such request, demand, authorization, direction, notice, consent, waiver or other action, 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 action may be given before or after the record date, but only the Securityholders of record at the close of business on the record date shall be deemed to be Securityholders for the purposes of determining whether Securityholders of the requisite proportion of Outstanding Securities of that series have authorized or agreed or consented to such request, demand, authorization, direction, notice, consent, waiver or other action, and for that purpose the Outstanding Securities of that series shall be computed as of the record date; provided, however, that no such authorization, agreement or consent by such Securityholders on the record date shall be deemed effective unless it shall become effective pursuant to the provisions of this Indenture not later than six months after the record date.

SECTION 8.02 Proof of Execution by Securityholders.

Subject to the provisions of Section 7.01, proof of the execution of any instrument by a Securityholder (such proof will not require notarization) or his agent or proxy and proof of the holding by any Person of any of the Securities shall be sufficient if made in the following manner:

- (a) The fact and date of the execution by any such Person of any instrument may be proved in any reasonable manner acceptable to the Trustee.
- (b) The ownership of Securities shall be proved by the Security Register of such Securities or by a certificate of the Security Registrar thereof.
- (c) The Trustee may require such additional proof of any matter referred to in this Section as it shall deem necessary.

SECTION 8.03 Who May be Deemed Owners.

Prior to the due presentment for registration of transfer of any Security, the Company, the Trustee, any paying agent and any Security Registrar may deem and treat the Person in whose name such Security shall be registered upon the books of the Company as the absolute owner of such Security (whether or not such Security shall be overdue and notwithstanding any notice of ownership or writing thereon made by anyone other than the Security Registrar) for the purpose of receiving payment of or on account of the principal of, premium, if any, and (subject to Section 2.03) interest on such Security and for all other purposes; and neither the Company nor the Trustee nor any paying agent nor any Security Registrar shall be affected by any notice to the contrary.

SECTION 8.04 Certain Securities Owned by Company Disregarded.

In determining whether the holders of the requisite aggregate principal amount of Securities of a particular series have concurred in any direction, consent or waiver under this Indenture, the Securities of that series that are owned by the Company or any other obligor on the Securities of that series or by any Person directly or indirectly controlling or controlled by or under common control with the Company or any other obligor on the Securities of that series shall be disregarded and deemed not to be Outstanding for the purpose of any such determination, except that for the purpose of determining whether the Trustee shall be protected in relying on any such direction, consent or waiver, only Securities of such series that the Trustee actually knows are so owned shall be so disregarded. The Securities so owned that have been pledged in good faith may be regarded as Outstanding for the purposes of this Section, if the pledgee shall establish to the satisfaction of the Trustee the pledgee's right so to act with respect to such Securities and that the pledgee is not a Person directly or indirectly controlling or controlled by or under direct or indirect common control with the Company or any such other obligor. In case of a dispute as to such right, any decision by the Trustee taken upon the advice of counsel shall be full protection to the Trustee.

SECTION 8.05 Actions Binding on Future Securityholders.

At any time prior to (but not after) the evidencing to the Trustee, as provided in Section 8.01, of the taking of any action by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action, any holder of a Security of that series that is shown by the evidence to be included in the Securities the holders of which have consented to such action may, by filing written notice with the Trustee, and upon proof of holding as provided in Section 8.02, revoke such action so far as concerns such Security. Except as aforesaid any such action taken by the holder of any Security shall be conclusive and binding upon such holder and upon all future holders and owners of such Security, and of any Security issued in exchange therefor, on registration of transfer thereof or in place thereof, irrespective of whether or not any notation in regard thereto is made upon such Security. Any action taken by the holders of the majority or percentage in aggregate principal amount of the Securities of a particular series specified in this Indenture in connection with such action shall be conclusively binding upon the Company, the Trustee and the holders of all the Securities of that series.

SECTION 8.06 Purposes for Which Meetings May Be Called.

A meeting of holders of any series of Securities may be called at any time and from time to time pursuant to this Article to make, give or take any request, demand, authorization, direction, notice, consent, waiver or other action provided by this Indenture to be made, given or taken by holders of such series of Securities.

Notwithstanding anything contained in this Article VIII, the Trustee may, during the pendency of a Default or an Event of Default, call a meeting of holders of any series of Securities in accordance with its standard practices.

SECTION 8.07 Call Notice and Place of Meetings.

- (a) The Trustee may at any time call a meeting of holders of any series of Securities for any purpose specified in Section 8.06 hereof, to be held at such time and at such place in The City of New York. Notice of every meeting of holders of any series of Securities, setting forth the time and the place of such meeting, in general terms the action proposed to be taken at such meeting and the percentage of the principal amount of the Outstanding Securities of such series which shall constitute a quorum at such meeting, shall be given, in the manner provided in Section 13.04 hereof, not less than 21 nor

more than 180 days prior to the date fixed for the meeting to holders of Outstanding Securities of such series.

- (b) In case at any time the Company, pursuant to a Board Resolution, or the holders of at least 10% in principal amount of the Outstanding Securities of any series shall have requested the Trustee to call a meeting of the holders of Securities of such series for any purpose specified in Section 8.06 hereof, by written request setting forth in reasonable detail the action proposed to be taken at the meeting, and the Trustee shall not have made the first publication of the notice of such meeting within 21 days after receipt of such request or shall not thereafter proceed to cause the meeting to be held as provided herein, then the Company or the holders of Securities of such series in the amount specified, as the case may be, may determine the time and the place in The City of New York for such meeting and may call such meeting for such purposes by giving notice thereof as provided in paragraph (a) of this Section.

SECTION 8.08 Persons Entitled To Vote at Meetings.

To be entitled to vote at any meeting of holders of Securities of a given series, a Person shall be (a) a holder of one or more Outstanding Securities of such series or (b) a Person appointed by an instrument in writing as proxy for a holder or holders of one or more Outstanding Securities of such series by such holder or holders. The only Persons who shall be entitled to be present or to speak at any meeting of holders shall be the Persons entitled to vote at such meeting and their counsel, any representatives of the Trustee and its counsel and any representatives of the Company and its counsel.

SECTION 8.09 Quorum; Action.

The Persons entitled to vote a majority in aggregate principal amount of the Outstanding Securities of a given series shall constitute a quorum with respect to a meeting of holders of Outstanding Securities of such series. In the absence of a quorum within 30 minutes of the time appointed for any such meeting, the meeting shall, if convened at the request of holders of Securities of such series, be dissolved. In any other case, the meeting may be adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such meeting. In the absence of a quorum at any such adjourned meeting, such adjourned meeting may be further adjourned for a period of not less than 10 days as determined by the chairman of the meeting prior to the adjournment of such adjourned meeting. Notice of the reconvening of any adjourned meeting shall be given as provided in Section 8.07(a) hereof, except that such notice need be given only once and not less than five days prior to the date on which the meeting is scheduled to be reconvened.

At a meeting or an adjourned meeting duly reconvened and at which a quorum is present as aforesaid, any resolution and all matters (except as limited by the proviso to the first paragraph of Section 9.02 hereof) shall be effectively passed and decided if passed or decided by the Persons entitled to vote not less than a majority in aggregate principal amount of Outstanding Securities of a series represented and voting at such meeting with respect to a meeting of holders of Outstanding Securities of such series.

Any resolution passed or decisions taken at any meeting of holders of Securities duly held in accordance with this Section shall be binding on all the holders of Securities of such series, whether or not present or represented at the meeting.

SECTION 8.10 Determination of Voting Rights; Conduct and Adjournment of Meetings.

- (a) Notwithstanding any other provisions of this Indenture, the Trustee may make such reasonable regulations as it may deem advisable for any meeting of holders of Securities in regard to proof of the holding of Securities and of the appointment of proxies and in regard to the appointment and duties of inspectors of votes, the submission and examination of proxies, certificates and other evidence of the right to vote, and such other matters concerning the conduct of the meeting as it shall deem appropriate.

- (b) The Trustee shall, by an instrument in writing, appoint a temporary chairman (which may be the Trustee) of the meeting, unless the meeting shall have been called by the Company or by holders of Securities of a given series as provided in Section 8.07(b) hereof, in which case the Company or the holders of Securities of such series calling the meeting, as the case may be, shall in like manner appoint a temporary chairman. A permanent chairman and a permanent secretary of the meeting shall be elected by vote of the Persons entitled to vote a majority in principal amount of the Outstanding Securities of such series represented at the meeting.
- (c) At any meeting, each holder of a Security of the series in respect of which such meeting is being held or proxy shall be entitled to one vote for each \$1,000 principal amount of Securities of such series held or represented by him; provided, however, that no vote shall be cast or counted at any meeting in respect of any Security of such series challenged as not Outstanding and ruled by the chairman of the meeting to be not Outstanding. The chairman of the meeting shall have no right to vote, except as a holder of a Security of such series or proxy.
- (d) Any meeting of holders of Securities duly called pursuant to Section 8.07 hereof at which a quorum is present may be adjourned from time to time by Persons entitled to vote a majority in principal amount of the Outstanding Securities of the series in respect of which such meeting is being held represented at the meeting, and the meeting may be held as so adjourned without further notice.

SECTION 8.11 Counting Votes and Recording Action of Meetings.

The vote upon any resolution submitted to any meeting of holders of Securities of a given series shall be by written ballots on which shall be subscribed the signatures of the holders of Securities of such series or of their representatives by proxy and the principal amounts and serial numbers of the Outstanding Securities of such series held or represented by them. The permanent chairman of the meeting shall appoint two inspectors of votes who shall count all votes cast at the meeting for or against any resolution and who shall make and file with the secretary of the meeting their verified written reports in duplicate of all votes cast at the meeting. A record, at least in duplicate, of the proceedings of each meeting of holders of Securities of such series shall be prepared by the secretary of the meeting and there shall be attached to said record the original reports of the inspectors of votes on any vote by ballot taken thereat and affidavits by one or more Persons having knowledge of the facts setting forth a copy of the notice of the meeting and showing that said notice was given as provided in Section 8.07 hereof and, if applicable, Section 8.09 hereof. Each copy shall be signed and verified by the affidavits of the permanent chairman and secretary of the meeting and one such copy shall be delivered to the Company and another to the Trustee to be preserved by the Trustee, the latter to have attached thereto the ballots voted at the meeting. Any record so signed and verified shall be conclusive evidence of the matters therein stated.

ARTICLE IX

SUPPLEMENTAL INDENTURES

SECTION 9.01 Supplemental Indentures Without the Consent of Securityholders.

In addition to any supplemental indenture otherwise authorized by this Indenture, the Company and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect), without the consent of the Securityholders, for one or more of the following purposes:

- (a) cure any ambiguity, correct or supplement any provision herein which may be inconsistent with any other provision herein or which is otherwise defective, or make any other provisions with respect to matters or questions arising under this Indenture which the Company and the Trustee may deem necessary or desirable and which shall not be inconsistent with the provisions of this Indenture;
- (b) to comply with Article X;

- (c) to provide for uncertificated Securities in addition to or in place of certificated Securities;
- (d) 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;
- (e) to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of Securities, as herein set forth;
- (f) to make any change that does not adversely affect the rights of any Securityholder in any material respect;
- (g) to provide for the issuance of and establish the form and terms and conditions of the Securities of any series as provided in Section 2.01, to establish the form of any certifications required to be furnished pursuant to the terms of this Indenture or any series of Securities, or to add to the rights of the holders of any series of Securities; or
- (h) comply with the requirements of the Commission in order to effect or maintain the qualification of this Indenture under the Trust Indenture Act.

The Trustee is hereby authorized to join with the Company in the execution of any such supplemental indenture, and to make any further appropriate agreements and stipulations that may be therein contained, but the Trustee shall not be obligated to enter into any such supplemental indenture that affects the Trustee's own rights, duties or immunities under this Indenture or otherwise.

Any supplemental indenture authorized by the provisions of this Section may be executed by the Company and the Trustee without the consent of the holders of any of the Securities at the time Outstanding, notwithstanding any of the provisions of Section 9.02.

SECTION 9.02 Supplemental Indentures With Consent of Securityholders.

With the written consent of the holders of at least a majority in aggregate principal amount of the Outstanding Securities of any series or by action at a meeting of holders of the Securities of such series in accordance with Section 8.09, by the holders of a majority in aggregate principal amount of the Securities of such series then Outstanding represented at such meeting, the Company, when authorized by Board Resolutions, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner not covered by Section 9.01 the rights of the holders of the Securities of such series under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the holders of each Security then Outstanding and affected thereby, (i) extend the fixed maturity of any Securities of any series, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof, (ii) reduce the aforesaid percentage of Securities, the holders of which are required to consent to any such supplemental indenture, or any consent or waiver, (iii) reduce the principal amount of discount securities payable upon acceleration of the maturity of any Securities of any series or (iv) make the principal of or premium or interest on any Security of a series payable in currency or currency units other than that stated in the Securities of such series.

It shall not be necessary for the consent of the Securityholders of any series affected thereby under this Section to approve the particular form of any proposed supplemental indenture, but it shall be sufficient if such consent shall approve the substance thereof.

SECTION 9.03 Effect of Supplemental Indentures.

Upon the execution of any supplemental indenture pursuant to the provisions of this Article or of Section 10.01, this Indenture shall, with respect to such series, be and be deemed to be modified and amended in accordance therewith and the respective rights, limitations of rights, obligations, duties and immunities under this Indenture of the Trustee, the Company and the holders of Securities of the series affected thereby shall thereafter be determined, exercised and enforced hereunder subject in all respects to such modifications and amendments, and all the terms and conditions of any such supplemental indenture shall be and be deemed to be part of the terms and conditions of this Indenture for any and all purposes.

SECTION 9.04 Securities Affected by Supplemental Indentures.

Securities of any series affected by a supplemental indenture, authenticated and delivered after the execution of such supplemental indenture pursuant to the provisions of this Article or of Section 10.01, may bear a notation in form approved by the Company, provided such form meets the requirements of any exchange upon which such series may be listed, as to any matter provided for in such supplemental indenture. If the Company shall so determine, new Securities of that series so modified as to conform, in the opinion of the Board of Directors of the Company, to any modification of this Indenture contained in any such supplemental indenture may be prepared by the Company, authenticated by the Trustee and delivered in exchange for the Securities of that series then Outstanding.

SECTION 9.05 Execution of Supplemental Indentures.

Upon the request of the Company, accompanied by its Board Resolutions authorizing the execution of any such supplemental indenture, and upon the filing with the Trustee of evidence of the consent of Securityholders required to consent thereto as aforesaid, the Trustee shall join with the Company in the execution of such supplemental indenture unless such supplemental indenture affects the Trustee's own rights, duties or immunities under this Indenture or otherwise, in which case the Trustee may in its discretion but shall not be obligated to enter into such supplemental indenture. The Trustee, subject to the provisions of Section 7.01, may receive an Opinion of Counsel as conclusive evidence that any supplemental indenture executed pursuant to this Article is authorized or permitted by, and conforms to, the terms of this Article and that it is proper for the Trustee under the provisions of this Article to join in the execution thereof; provided, however, that such Opinion of Counsel need not be provided in connection with the execution of a supplemental indenture that establishes the terms of a series of Securities pursuant to Section 2.01 hereof.

Promptly after the execution by the Company and the Trustee of any supplemental indenture pursuant to the provisions of this Section, the Trustee shall transmit by mail, first class postage prepaid, a notice, setting forth in general terms the substance of such supplemental indenture, to the Securityholders of all series affected thereby as their names and addresses appear upon the Security Register. Any failure of the Trustee to mail such notice, or any defect therein, shall not, however, in any way impair or affect the validity of any such supplemental indenture.

ARTICLE X

SUCCESSOR ENTITY

SECTION 10.01 Company May Consolidate, Etc.

Nothing contained in this Indenture or in any of the Securities shall prevent any consolidation or merger of the Company with or into any other Person (whether or not affiliated with the Company) or successive consolidations or mergers in which the Company or its successor or successors shall be a party or parties, or shall prevent any sale, conveyance, transfer or other disposition of the property of the Company or its successor or successors as an entirety, or substantially as an entirety, to any other corporation (whether or not affiliated with the Company or its successor or successors) authorized to acquire and operate the same; provided, however, the Company hereby covenants and agrees that, upon any such consolidation or merger (in each case, if the Company is not the survivor of such transaction), sale, conveyance, transfer or other disposition, the due and punctual payment of the principal of (premium, if any) and interest on all of the Securities of all series in accordance with the terms of each series, according to their tenor and the due and punctual performance and observance of all the covenants and conditions of this Indenture with respect to each series or established with respect to such series pursuant to Section 2.01 to be kept or performed by the Company shall be expressly assumed, by supplemental indenture (which shall conform to the provisions of the Trust Indenture Act, as then in effect) satisfactory in form to the Trustee executed and delivered to the Trustee by the entity formed by such

consolidation, or into which the Company shall have been merged, or by the entity which shall have acquired such property.

SECTION 10.02 Successor Entity Substituted.

- (a) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition and upon the assumption by the successor entity by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the due and punctual payment of the principal of, premium, if any, and interest on all of the Securities of all series Outstanding and the due and punctual performance of all of the covenants and conditions of this Indenture or established with respect to each series of the Securities pursuant to Section 2.01 to be performed by the Company with respect to each series, such successor entity shall succeed to and be substituted for the Company with the same effect as if it had been named as the Company herein, and thereupon the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.
- (b) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.
- (c) Nothing contained in this Article shall require any action by the Company in the case of a consolidation or merger of any Person into the Company where the Company is the survivor of such transaction, or the acquisition by the Company, by purchase or otherwise, of all or any part of the property of any other Person (whether or not affiliated with the Company).

SECTION 10.03 Evidence of Consolidation, Etc. to Trustee.

The Trustee, subject to the provisions of Section 7.01, may receive an Opinion of Counsel as conclusive evidence that any such consolidation, merger, sale, conveyance, transfer or other disposition, and any such assumption, comply with the provisions of this Article.

ARTICLE XI

SATISFACTION AND DISCHARGE

SECTION 11.01 Satisfaction and Discharge of Indenture.

If at any time: (a) the Company shall have delivered to the Trustee for cancellation all Securities of a series theretofore authenticated (other than any Securities that shall have been destroyed, lost or stolen and that shall have been replaced or paid as provided in Section 2.07) and Securities for whose payment money or Governmental Obligations have theretofore been deposited in trust or segregated and held in trust by the Company (and thereupon repaid to the Company or discharged from such trust, as provided in Section 11.05); or (b) all such Securities of a particular series not theretofore 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 under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall deposit or cause to be deposited with the Trustee as trust funds the entire amount in moneys or Governmental Obligations sufficient or a combination thereof, sufficient (assuming that no tax liability will be imposed on the Trustee) in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay at maturity or upon redemption all Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder with respect to such series by the Company then this Indenture shall thereupon cease to be of further effect with respect to such series except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03 and 7.10, that shall survive until the date of maturity or redemption date, as the case may be, and Sections 7.06 and 11.05, that shall survive to such date and thereafter, and the Trustee, on demand of the Company and at the cost and expense of the

Company shall execute proper instruments acknowledging satisfaction of and discharging this Indenture with respect to such series.

SECTION 11.02 Discharge of Obligations.

If at any time all such Securities of a particular series not heretofore delivered to the Trustee for cancellation or that have not become due and payable as described in Section 11.01 shall have been paid by the Company by depositing irrevocably with the Trustee as trust funds moneys or an amount of Governmental Obligations sufficient to pay at maturity or upon redemption all such Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder by the Company with respect to such series, then after the date such moneys or Governmental Obligations, as the case may be, are deposited with the Trustee the obligations of the Company under this Indenture with respect to such series shall cease to be of further effect except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03, 7.06, 7.10 and 11.05 hereof that shall survive until such Securities shall mature and be paid. Thereafter, Sections 7.06 and 11.05 shall survive.

SECTION 11.03 Deposited Moneys to be Held in Trust.

Subject to Section 11.05, all moneys or Governmental Obligations deposited with the Trustee pursuant to Sections 11.01 or 11.02 shall be held in trust and shall be available for payment as due, either directly or through any paying agent (including the Company acting as its own paying agent), to the holders of the particular series of Securities for the payment or redemption of which such moneys or Governmental Obligations have been deposited with the Trustee.

SECTION 11.04 Payment of Moneys Held by Paying Agents.

In connection with the satisfaction and discharge of this Indenture all moneys or Governmental Obligations then held by any paying agent under the provisions of this Indenture shall, upon demand of the Company, be paid to the Trustee and thereupon such paying agent shall be released from all further liability with respect to such moneys or Governmental Obligations.

SECTION 11.05 Repayment to Company.

Any moneys or Governmental Obligations deposited with any paying agent or the Trustee, or then held by the Company, in trust for payment of principal of or premium or interest on the Securities of a particular series that are not applied but remain unclaimed by the holders of such Securities for two years after the date upon which the principal of (and premium, if any) or interest on such Securities shall have respectively become due and payable, shall be repaid to the Company or (if then held by the Company) shall be discharged from such trust in each case, promptly after the end of any such two-year period or, at the request of the Company, on a later date specified by the Company; and thereupon the paying agent and the Trustee shall be released from all further liability with respect to such moneys or Governmental Obligations, and the holder of any of the Securities entitled to receive such payment shall thereafter, as an unsecured general creditor, look only to the Company for the payment thereof.

ARTICLE XII

IMMUNITY OF INCORPORATORS, STOCKHOLDERS, OFFICERS AND DIRECTORS

SECTION 12.01 No Recourse.

No recourse under or upon any obligation, covenant or agreement of this Indenture, or of any Security, or for any claim based thereon or otherwise in respect thereof, shall be had against any incorporator, stockholder, officer or director, past, present or future as such, of the Company or of any predecessor or successor corporation, either directly or through the Company or any such predecessor or successor corporation, whether by virtue of any constitution, statute or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that this Indenture and the obligations issued hereunder are solely corporate obligations, and that no such personal liability whatever shall attach to, or is or shall be incurred by, the incorporators, stockholders, officers or directors as such, of the

Company or of any predecessor or successor corporation, or any of them, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom; and that any and all such personal liability of every name and nature, either at common law or in equity or by constitution or statute, of, and any and all such rights and claims against, every such incorporator, stockholder, officer or director as such, because of the creation of the indebtedness hereby authorized, or under or by reason of the obligations, covenants or agreements contained in this Indenture or in any of the Securities or implied therefrom, are hereby expressly waived and released as a condition of, and as a consideration for, the execution of this Indenture and the issuance of such Securities.

ARTICLE XIII

MISCELLANEOUS PROVISIONS

SECTION 13.01 Effect on Successors and Assigns.

All the covenants, stipulations, promises and agreements in this Indenture contained by or on behalf of the Company shall bind its successors and assigns, whether so expressed or not.

SECTION 13.02 Actions by Successor.

Any act or proceeding by any provision of this Indenture 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 corresponding board, committee or officer of any corporation that shall at the time be the lawful successor of the Company.

SECTION 13.03 Surrender of Company Powers.

The Company by instrument in writing executed by authority of its Board of Directors and delivered to the Trustee may surrender any of the powers reserved to the Company, and thereupon such power so surrendered shall terminate both as to the Company and as to any successor corporation.

SECTION 13.04 Notices.

Except as otherwise expressly provided herein any notice or demand that by any provision of this Indenture is required or permitted to be given or served by the Trustee or by the holders of Securities to or on the Company may be given or served by being deposited first class postage prepaid in a post-office letterbox addressed (until another address is filed in writing by the Company with the Trustee), as follows: Pieris Pharmaceuticals, Inc., Attn: [], 255 State Street, 9th Floor, Boston, Massachusetts 02109. Any notice, election, request or demand by the Company or any Securityholder to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made in writing at the Corporate Trust Office of the Trustee. Any notice or communication to a holder shall be mailed by first-class mail to his address shown on the Security Register kept by the Security Registrar. Failure to mail a notice or communication to a holder or any defect in such notice or communication shall not affect its sufficiency with respect to other holders. If a notice or communication is mailed or sent in the manner provided above within the time prescribed, it is duly given as of the date it is mailed, whether or not the addressee receives it, except that notice to the Trustee or the Company shall only be effective upon receipt thereof by the Trustee or the Company, respectively. If the Company mails a notice or communication to holders of Securities, it shall mail a copy to the Trustee at the same time.

SECTION 13.05 Governing Law.

This Indenture and each Security shall be deemed to be a contract made under the internal laws of the State of New York, and for all purposes shall be construed in accordance with the laws of said State.

SECTION 13.06 Treatment of Securities as Debt.

It is intended that the Securities will be treated as indebtedness and not as equity for federal income tax purposes. The provisions of this Indenture shall be interpreted to further this intention.

SECTION 13.07 Compliance Certificates and Opinions.

- (a) Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture, the Company, shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent 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 have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.
- (b) Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant in this Indenture shall include (1) a statement that the Person making such certificate or opinion has read such covenant or condition; (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 such Person, he has made such examination or investigation as is necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and (4) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been complied with.

SECTION 13.08 Payments on Business Days.

Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and as set forth in an Officers' Certificate, or established in one or more indentures supplemental to this Indenture, in any case where the date of maturity of interest or principal of any Security or the date of redemption of any Security shall not be a Business Day, then payment of interest or principal (and premium, if any) may be made on the next succeeding Business Day with the same force and effect as if made on the nominal date of maturity or redemption, and no interest shall accrue for the period after such nominal date.

SECTION 13.09 Conflict with Trust Indenture Act.

If and to the extent that any provision of this Indenture limits, qualifies or conflicts with the duties imposed by Sections 310 to 317, inclusive, of the Trust Indenture Act, such imposed duties shall control.

SECTION 13.10 Counterparts.

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 and the same instrument.

SECTION 13.11 Separability.

In case any one or more of the provisions contained in this Indenture or in the Securities of any series shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Indenture or of such Securities, but this Indenture and such Securities shall be construed as if such invalid or illegal or unenforceable provision had never been contained herein or therein.

SECTION 13.12 Assignment.

The Company will have the right at all times to assign any of its rights or obligations under this Indenture to a direct or indirect wholly-owned Subsidiary of the Company, provided that, in the event of any such assignment, the Company, will remain liable for all such obligations. Subject to the foregoing, this Indenture is binding upon and inures to the benefit of the parties thereto and their respective successors and assigns. This Indenture may not otherwise be assigned by the parties thereto.

ARTICLE XIV

SUBORDINATION OF SECURITIES

SECTION 14.01 Subordination Terms.

The payment by the Company of the principal of, premium, if any, and interest on any series of Securities issued hereunder shall be subordinated to the extent set forth in an indenture supplemental hereto relating to the Securities of such series.

IN WITNESS WHEREOF, the parties hereto have caused this Indenture to be duly executed all as of the day and year first above written.

PIERIS PHARMACEUTICALS, INC.

By: _____
Name:
Title:

[],
As Trustee

By: _____
Name:
Title:

August 8, 2018

Pieris Pharmaceuticals, Inc.
255 State Street, 9th Floor
Boston, MA 02109

Ladies and Gentlemen:

We have acted as local Nevada counsel to Pieris Pharmaceuticals, Inc., a Nevada corporation (the Company), in connection with the filing by the Company of a Registration Statement on Form S-3 (the Registration Statement) with the Securities and Exchange Commission (the Commission) under the Securities Act of 1933, as amended (the Act), relating to the registration for offering and sale from time to time by the Company of an indeterminate number of the following securities of the Company, with an initial aggregate offering price of up to \$200,000,000: (i) shares (the Common Shares) of the Company's common stock, par value \$0.001 per share (the Common Stock), (ii) shares (the Preferred Shares) and together with the Common Shares, the Shares) of the Company's preferred stock, par value \$0.001 per share (the Preferred Stock) in one or more series; (iii) debt securities (the Debt Securities) to be issued pursuant to one or more indentures, in substantially the form filed as an exhibit to the Registration Statement (each, an Indenture); (iv) warrants to purchase shares of Common Stock, shares of Preferred Stock or Debt Securities (the Warrants) issued pursuant to one or more warrant agreements (each, a Warrant Agreement); (v) rights to purchase shares of Common Stock, shares of Preferred Stock or other Securities (as defined below) (the Rights) issued pursuant to one or more rights agreements to be entered into between the Company and a bank or trust company, as rights agent (each, a Right Agreement); (vi) purchase contracts that obligate (a) holders to purchase from the Company, and for the Company to sell to holders, shares of Common Stock, shares of Preferred Stock, Debt Securities, Warrants or Rights or (b) the Company to purchase from holders, and holders to sell to the Company, shares of Common Stock, shares of Preferred Stock, Debt Securities, Warrants or Rights (each, a Purchase Contract) and (vii) units comprising shares of Common Stock, shares of Preferred Stock, Debt Securities, Warrants, Rights and/or Purchase Contracts (the Units, and together with the Shares, the Debt Securities, the Warrants, the Rights and the Purchase Contracts, the Securities) issued pursuant to one or more unit agreements (each, a Unit Agreement). This opinion letter is being furnished at your request in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Act.

In our capacity as such counsel, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the registration of the Securities, as described in the Registration Statement. For purposes of this opinion letter, and except to the extent set forth in the opinions below, we have assumed that all such proceedings have been timely completed or will be timely completed in the manner presently proposed in the Registration Statement.

For purposes of issuing this opinion letter, we have made such legal and factual examinations and inquiries, including an examination of originals or copies certified or otherwise identified to our satisfaction as being true copies of (i) the Registration Statement, (ii) the articles of incorporation and bylaws of the Company (collectively, the "Governing Documents") and (iii) such agreements, instruments, resolutions of the board of directors of the Company and other corporate records, and such other documents as we have deemed necessary or appropriate for the purpose of issuing this opinion letter, and we have obtained from officers and other representatives and agents of the Company and from public officials, and have relied upon, such certificates, representations and assurances as we have deemed necessary or appropriate.

Without limiting the generality of the foregoing, in our examination and in issuing this opinion letter, we have, with your permission, assumed without independent verification that (i) each agreement, instrument or other document we have reviewed or which is referenced herein has been or will be duly executed and delivered by the parties thereto to the extent due execution and delivery are prerequisites to the effectiveness thereof; (ii) each Indenture has been or will be executed in substantially the form filed as an exhibit to the Registration Statement; (iii) any and all agreements, instruments or other documents relating to the offering, issuance or sale of any Securities, including, without limitation, any and all Indentures (including any officer's certificate or supplemental indenture relating thereto), Warrant Agreements (including each warrant certificate contemplated thereby), Rights Agreements (including each right certificate contemplated thereby), Purchase Contracts and Unit Agreements (including each unit certificate contemplated thereby) (collectively, the "Securities Documents") have been or will be duly authorized, executed and delivered by the Company and the other parties thereto; (iv) the obligations of each party set forth in the Securities Documents are or will be its valid and binding obligations, enforceable in accordance with their respective terms; (v) no Securities have been or will be offered, issued or sold in violation or breach of, nor will any such offering, issuance or sale result in a default under, any agreement or instrument that is binding upon the Company or any requirement or restriction imposed by any governmental or regulatory agency, authority or body; (vi) the Company has taken or will take all corporate action required in connection with the authorization, offering, issuance and sale of any Securities (including, without limitation, any Shares or other securities of the Company underlying, or issued or sold pursuant to or upon conversion or exercise of, any Preferred Stock, Debt Securities, Warrants, Rights, Purchase Contracts, Units or other agreement or arrangement), and all Securities have been or will be offered, issued and sold, in compliance with all applicable laws, the Governing Documents and the relevant Securities Documents in effect at all relevant times, and any and all certificates evidencing Shares, Warrants, Rights, and Units are or will be properly signed, registered and delivered, as necessary, in accordance with all applicable laws, the Governing Documents and the relevant Securities Documents (collectively, "Corporate Proceedings"); (vii) after any issuance of Common Shares, the total number of issued and outstanding shares of Common Stock, together with the total number of shares of Common Stock then reserved for issuance or obligated to be issued by the Company pursuant to any agreement, arrangement, Certificate of Designation (as defined below) or otherwise, will not exceed the total number of shares of Common Stock then authorized under the Company's articles of incorporation; (viii) the voting rights, designations, preferences, limitations, restrictions, privileges and relative rights of each series of Preferred Stock (including the Preferred Shares) have been or will be fixed in a certificate of designation relating to such series, prepared in the form prescribed by applicable law, duly signed by an officer of the Company and properly filed with the Nevada Secretary of State (each, a "Certificate of Designation"), and at no time will the total number of shares of Preferred Stock designated pursuant to all then-effective Certificates of Designation exceed the total number of shares of Preferred Stock then authorized under the Company's articles of incorporation; (ix) after any issuance of Preferred Shares, the total number of issued and outstanding shares of each series thereof, together with the total number of shares of such series then reserved for issuance or obligated to be issued by the Company pursuant to any agreement or arrangement or otherwise, will not exceed the total number of shares of such series then designated under

the Certificate of Designation for such series; (x) the statements of fact and representations and warranties set forth in the documents we have reviewed are, or at all relevant times will be, true and correct as to factual matters; (xi) each natural person executing a document has or will have sufficient legal capacity to do so; (xii) all documents submitted to us as originals are authentic, the signatures on all documents that we have examined are genuine, and all documents submitted to us as certified, conformed, photostatic, electronic or facsimile copies conform to the original documents; and (xiii) all corporate records made available to us by the Company, and all public records we have reviewed, are accurate and complete.

We are qualified to practice law in the State of Nevada. The opinions set forth herein are expressly limited to and based exclusively on the general corporate laws of the State of Nevada, and we do not purport to be experts on, or to express any opinion with respect to the applicability or effect of, the laws of any other jurisdiction. We express no opinion concerning, and we assume no responsibility as to laws or judicial decisions related to, or any orders, consents or other authorizations or approvals as may be required by, any federal laws, rules or regulations, including, without limitation, any federal securities laws, rules or regulations, or any state securities or "blue sky" laws, rules or regulations.

Based upon the foregoing and in reliance thereon, and having regard to legal considerations and other information that we deem relevant, we are of the opinion that:

1. If and when all Corporate Proceedings have been taken and completed in respect of any offering, issuance or sale of Shares, and to the extent such Shares have been issued in accordance with all applicable terms and conditions set forth in the relevant Securities Documents and Certificates of Designation, including payment in full of all consideration required therefor as authorized by such Corporate Proceedings and prescribed by such Securities Documents and Certificates of Designation, such Shares will be duly authorized, validly issued, fully paid and non-assessable.
2. If and when all Corporate Proceedings have been taken and completed in respect of any offering, issuance or sale of Debt Securities, Warrants, Rights, Purchase Contracts or Units, such Securities will be duly authorized.

The opinions expressed herein are based upon the applicable laws of the State of Nevada and the facts in existence on the date hereof. In delivering this opinion letter to you, we disclaim any obligation to update or supplement the opinions set forth herein or to apprise you of any changes in such laws or facts after such time as the Registration Statement is declared effective. No opinion is offered or implied as to any matter, and no inference may be drawn, beyond the strict scope of the specific issues expressly addressed by the opinions set forth herein.

We consent to your filing this opinion letter as an exhibit to the Registration Statement and to the reference to our firm therein under the heading "Legal Matters". In giving such consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission promulgated thereunder. Subject to all of the qualifications, limitations, restrictions, exceptions and assumptions set forth herein, Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. may rely on this opinion letter as if it were an addressee hereof on this date for the sole purpose of issuing its opinion letter to the Company relating to the validity of the Securities (other than the Shares), as filed with the Commission as Exhibit 5.2 to the Registration Statement.

Very truly yours,
/s/ Brownstein Hyatt Farber Schreck, LLP

Exhibit 5.2

August 9, 2018

Pieris Pharmaceuticals, Inc.
255 State Street, 9th Floor
Boston, Massachusetts 02109

Ladies and Gentlemen:

We have acted as counsel to Pieris Pharmaceuticals, Inc. (the “Company”), in connection with the preparation and filing with the Securities and Exchange Commission (the “Commission”) of a Registration Statement on Form S-3 (the “Registration Statement”), pursuant to which the Company is registering under the Securities Act of 1933, as amended (the “Securities Act”), the following:

- (i) common stock, \$0.001 par value per share (the “Common Stock”);
- (ii) preferred stock, \$0.001 par value per share (the “Preferred Stock”);
- (iii) senior debt securities, in one or more series (the “Senior Debt Securities”), which may be issued pursuant to an indenture to be dated on or about the date of the first issuance of Senior Debt Securities thereunder, by and between the Company and a trustee to be selected by the Company, in the form attached as Exhibit 4.1 to the Registration Statement, as such indenture may be amended or supplemented from time to time (the “Senior Indenture”);
- (iv) subordinated debt securities, in one or more series (the “Subordinated Debt Securities” and, together with the Senior Debt Securities, the “Debt Securities”), which may be issued pursuant to an indenture to be dated on or about the date of the first issuance of Subordinated Debt Securities thereunder, by and between the Company and a trustee to be selected by the Company, in the form attached as Exhibit 4.2 to the Registration Statement, as such indenture may be amended or supplemented from time to time (the “Subordinated Indenture”);
- (v) warrants to purchase Common Stock, Preferred Stock, and/or Debt Securities (the “Warrants”), which may be issued under warrant agreements, to be dated on or about the date of the first issuance of the applicable Warrants thereunder, by and between the Company and a warrant agent to be selected by the Company (each, a “Warrant Agreement”);
- (vi) rights to purchase Common Stock, Preferred Stock or Debt Securities (the “Rights”), which may be issued pursuant to a rights agreement and certificates issued thereunder, to be dated on or about the date of the first issuance of the applicable Rights thereunder, by and between the Company and a rights agent to be selected by the Company (each, a “Rights Agreement”);
- (vii) purchase contracts, including contracts obligating holders to purchase from the Company and for the Company to sell to such holders, or obligating the Company to purchase from holders and for such holders to sell to the Company, a specific or variable number of the Debt Securities, shares of Common Stock, Preferred Stock, Warrants or Rights, or securities of an entity unaffiliated with the Company, or any combination thereof, at a future date or dates (each, a “Purchase Contract”); and
- (viii) units comprised of one or more Debt Securities, shares of Common Stock, shares of Preferred Stock, Rights, Purchase Contracts and Warrants, in any combination (the “Units”), which may be issued under unit agreements, to be dated on or about the date of the first issuance of the applicable Units thereunder, by and between the Company and a unit agent to be selected by the Company (each, a “Unit Agreement”).

The Common Stock, the Preferred Stock, the Debt Securities, the Warrants, the Rights, the Purchase Contracts and the Units are collectively referred to herein as the “Securities.” The Registration Statement relates to the registration of the Securities to be offered and sold by the Company from time to time on a delayed or continuous basis pursuant to Rule 415 under the Securities Act. The maximum aggregate public offering price of the Securities being registered is \$200,000,000. This opinion is being rendered in connection with the filing of the Registration Statement with the Commission. All capitalized terms used herein and not otherwise defined shall have the respective meanings given to them in the Registration Statement.

In connection with this opinion, we have examined the Company’s articles of incorporation and bylaws, each as currently in effect; such other records of the corporate proceedings of the Company and certificates of the Company’s officers as we have deemed relevant; and the Registration Statement and the exhibits thereto.

In our examination, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as certified or photostatic copies and the authenticity of the originals of such copies.

In our capacity as counsel to the Company in connection with such registration, we are familiar with the proceedings taken and proposed to be taken by the Company in connection with the authorization and issuance of the Securities. For purposes of this opinion, we have assumed that such proceedings that have not yet been completed will be timely and properly completed, in accordance with all requirements of applicable federal and Nevada laws, in the manner presently proposed.

The opinions set forth below are subject to the following exceptions, limitations and qualifications: (i) the effect of bankruptcy, insolvency, reorganization, fraudulent conveyance, moratorium or other similar laws now or hereafter in effect relating to or affecting the rights and remedies of creditors; (ii) the effect of general principles of equity, whether enforcement is considered in a proceeding in equity or at law, and the discretion of the court before which any proceeding therefor may be brought; (iii) the unenforceability under certain circumstances under law or court decisions of provisions providing for the indemnification of, or contribution to, a party with respect to a liability where such indemnification or contribution is contrary to public policy; (iv) we express no opinion concerning the enforceability of any waiver of rights or defenses with respect to stay, extension or usury laws; and (v) we express no opinion with respect to whether acceleration of any Debt Securities may affect the ability to collect any portion of the stated principal amount thereof which might be determined to constitute unearned interest thereon.

We have relied as to certain matters on information obtained from public officials, officers of the Company, and other sources believed by us to be responsible and we have assumed that the Senior Indenture and the Subordinated Indenture will be duly authorized, executed, and delivered by the respective trustees thereunder and the Warrant Agreement, Rights Agreement and Unit Agreement will be duly authorized, executed, and delivered by the warrant agent, rights agent and unit agent, respectively, thereunder and the Purchase Contracts will be duly authorized, executed, and delivered by the other parties thereto. With respect to our opinion as to the Common Stock and Securities convertible into or exercisable for shares of Common Stock, we have assumed that, at the time of issuance and sale, a sufficient number of shares of Common Stock are authorized and available for issuance under the Company's articles of incorporation as then in effect and that the consideration for the issuance and sale of the Common Stock (or Purchase Contracts, Preferred Stock, Debt Securities convertible into Common Stock or Warrants or Rights exercisable for Common Stock or any Units of such Securities) is in an amount that is not less than the par value of the Common Stock. With respect to our opinion as to the Preferred Stock and Securities convertible into or exercisable for shares of Preferred Stock, we have assumed that, at the time of issuance and sale, a sufficient number of shares of Preferred Stock are authorized, designated and available for issuance and that the consideration for the issuance and sale of the Preferred Stock (or Purchase Contracts, Debt Securities convertible into Preferred Stock or Warrants or Rights exercisable for Preferred Stock or any Units of such Securities) is in an amount that is not less than the par value of the Preferred Stock. We have also assumed that any Warrants, Rights, Purchase Contracts and Units offered under the Registration Statement, and the related Warrant Agreement, Rights Agreement, Purchase Contract and Unit Agreement, as applicable, will be executed in the forms to be filed as exhibits to the Registration Statement or incorporated by reference therein. We have not independently verified any of the foregoing assumptions.

It is understood that this opinion is to be used only in connection with the offer and sale of Securities while the Registration Statement is effective under the Securities Act.

Members of our firm are admitted to the Bar of the Commonwealth of Massachusetts and the State of New York, and we do not express any opinion as to the laws of any other jurisdiction other than the United States federal laws and, as to the Debt Securities constituting valid and legally binding obligations of the Company, the laws of the State of New York. Various issues concerning the Chapter 78 of the Nevada Revised Statutes and the internal laws of the State of Nevada are addressed in the opinion of Brownstein Hyatt Farber Schreck, LLP, separately provided to you. We express no opinion with respect to those matters herein, and to the extent elements of those opinions are necessary to the conclusions expressed herein, we have, with your consent, assumed such matters.

Please note that we are opining only as to the matters expressly set forth herein, and no opinion should be inferred as to any other matters. The Securities may be offered and sold from time to time on a delayed or continuous basis, but this opinion is based upon currently existing statutes, rules, regulations and judicial decisions, and we disclaim any obligation to advise you of any change in any of these sources of law or subsequent legal or factual developments which might affect any matters or opinions set forth herein.

Based upon the foregoing, we are of the opinion that:

1. With respect to the Debt Securities, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Senior Indenture or the Subordinated Indenture, whichever the case may be, has been duly authorized, executed and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Debt Securities has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Debt Securities are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Debt Securities in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed and delivered by the Company and the other parties thereto; (vi) the terms of the Debt Securities and of their issuance and sale have been duly established in conformity with the Senior Indenture or the Subordinated Indenture, whichever the case may be, and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) such Debt Securities have been duly executed and authenticated in accordance with the Senior Indenture or the Subordinated Indenture, whichever the case may be, and issued and sold as contemplated in the Registration Statement and the prospectus included therein, (viii) the Senior Indenture or the Subordinated Indenture, whichever the case may be, relating to the Debt Securities has been qualified under the Trust Indenture Act of 1939, as amended, and (ix) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Debt Securities will constitute valid and legally binding obligations of the Company.

2. With respect to the Warrants, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Warrant Agreement relating to the Warrants has been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Warrants has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Warrants are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Warrants in the form filed as an exhibit to the Registration Statement, any

post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed and delivered by the Company and the other parties thereto, (vi) the terms of the Warrants and of their issuance and sale have been duly established in conformity with the Warrant Agreement and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Warrants have been duly executed and countersigned in accordance with the Warrant Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Warrants will constitute valid and legally binding obligations of the Company.

3. With respect to the Rights, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Rights Agreement and any certificates relating to the Rights have been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Rights has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Rights are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Rights in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed and delivered by the Company and the other parties thereto, (vi) the terms of the Rights and of their issuance and sale have been duly established in conformity with the Rights Agreement and any rights certificates and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Rights have been duly executed and countersigned in accordance with the Rights Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Rights will constitute valid and legally binding obligations of the Company.

4. With respect to the Purchase Contracts, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Purchase Contracts have been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Purchase Contracts has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Purchase Contracts are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Purchase Contracts in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed and delivered by the Company and the other parties thereto, (vi) the terms of the Purchase Contracts and of their issuance and sale have been duly established in conformity with the Purchase Contracts and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Purchase Contracts have been duly executed, countersigned, issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Purchase Contracts will constitute valid and legally binding obligations of the Company

5. With respect to the Units, when (i) specifically authorized for issuance by the Authorizing Resolutions, (ii) the Registration Statement, as finally amended (including all post-effective amendments), has become effective under the Securities Act, (iii) the Unit Agreement relating to the Units has been duly authorized, executed, and delivered by the Company, (iv) an appropriate prospectus supplement with respect to the applicable Units has been prepared, delivered and filed in compliance with the Securities Act and the applicable rules and regulations thereunder, (v) if the applicable Units are to be sold pursuant to an Underwriting Agreement, such Underwriting Agreement with respect to the applicable Units in the form filed as an exhibit to the Registration Statement, any post-effective amendment thereto or to a Current Report on Form 8-K, has been duly authorized, executed and delivered by the Company and the other parties thereto, (vi) the terms of the Units and of their issuance and sale have been duly established in conformity with the Unit Agreement and do not violate any applicable law or result in a default under or breach of any agreement or instrument binding upon the Company and comply with any requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, (vii) the Units have been duly executed and countersigned in accordance with the Unit Agreement and issued and sold as contemplated by the Registration Statement and the prospectus included therein, and (viii) the Company has received the consideration provided for in the Authorizing Resolutions and, if applicable, the Underwriting Agreement, the Units will constitute valid and legally binding obligations of the Company.

We understand that you wish to file this opinion with the Commission as an exhibit to the Registration Statement in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Securities Act and to reference the firm's name under the caption "Legal Matters" in the prospectus which forms part of the Registration Statement, and we hereby consent thereto. In giving this consent, we do not 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.

Very truly yours,

/s/ Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.

Consent of Independent Registered Public Accounting Firm

We consent to the reference to our firm under the caption "Experts" in this Registration Statement (Form S-3) and related Prospectus of Pieris Pharmaceuticals, Inc. for the registration of common stock, preferred stock, debt securities, warrants, rights, purchase contracts and units and to the incorporation by reference therein of our report dated March 15, 2018, with respect to the consolidated financial statements of Pieris Pharmaceuticals, Inc. included in its Annual Report (Form 10-K) for the year ended December 31, 2017, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Boston, Massachusetts
August 9, 2018