

# SECURITIES & EXCHANGE COMMISSION EDGAR FILING

## ENDRA Life Sciences Inc.

**Form: S-3**

**Date Filed: 2018-12-28**

Corporate Issuer CIK: 1681682

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

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

**ENDRA LIFE SCIENCES INC.**

(Exact name of registrant as specified in its charter)

**Delaware**  
(State or other jurisdiction of incorporation)

**26-0579295**  
(IRS Employer Identification Number)

**ENDRA Life Sciences Inc.**  
**3600 Green Court, Suite 350**  
**Ann Arbor, MI 48105**  
**(734) 335-0468**

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

**Francois Michelon**  
**Chief Executive Officer**  
**ENDRA Life Sciences Inc.**  
**3600 Green Court, Suite 350**  
**Ann Arbor, MI 48105**  
**(734) 335-0468**

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

**Please send copies of all communications to:**

**Mark R. Busch**  
**K&L Gates LLP**  
**214 North Tryon Street, 47<sup>th</sup> Floor**  
**Charlotte, N.C. 28202**  
**(704) 331-7440**

**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 market conditions.

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

Large accelerated filer   
Non-accelerated filer

Accelerated filer   
Smaller reporting company   
Emerging growth company

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

## CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Amount to be Registered (1)(2) (3)	Proposed Maximum Offering Price per Unit (2) (3)	Proposed Maximum Aggregate Offering Price (3)	Amount of Registration Fee (4)
Common Stock				
Preferred Stock				
Debt Securities				
Warrants				
Units				
Total for Sale by Registrant			\$ 20,000,000	\$ 2,424

(1) This Registration Statement also covers (i) debt securities, preferred stock and common stock that may be issued upon exercise of warrants and (ii) such indeterminate amount of securities as may be issued upon conversion, redemption, repurchase, exchange or exercise of any securities registered hereunder, including under any applicable anti-dilution provisions. In addition, securities registered hereunder may be sold separately or as units with other securities registered hereunder.

(2) An indeterminate aggregate initial offering price or number of securities of each identified class is being registered as may from time to time be issued at indeterminate prices and, in addition, an unspecified number of additional shares of common stock is being registered as may be issued from time to time upon conversion of any debt securities that are convertible into common stock or pursuant to any anti-dilution adjustments with respect to any such convertible debt securities. Separate consideration may not be received for registered securities that are issuable upon the exercise, conversion or exchange of other securities. The securities covered by this registration statement may be sold or otherwise distributed separately, together or as units with other securities covered by this registration statement. This registration statement also covers debt securities, common stock, preferred stock, depositary shares, warrants, rights and units that may be offered or sold under delayed delivery contracts pursuant to which the counterparty may be required to purchase such securities, as well as such contracts themselves. Such contracts would be issued with the specific securities to which they relate.

(3) Not specified as to each class of securities to be registered pursuant to General Instruction II.D of Form S-3 under the Securities Act.

(4) Calculated pursuant to Rule 457(o) of the rules and regulations under the Securities Act.

**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, or until the Registration Statement shall become effective on such date as the 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 December 28, 2018



ENDRA Life Sciences Inc.

Prospectus

\$20,000,000

Common Stock  
Preferred Stock  
Debt Securities  
Warrants  
Units

This prospectus relates to common stock, preferred stock, debt securities and warrants that ENDRA Life Sciences Inc. may sell from time to time in one or more offerings on terms to be determined at the time of sale. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

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

Our common stock trades on the Nasdaq Capital Market under the symbol "NDRA." On December 27, 2018, the last reported sale price for our Common Stock was \$1.78 per share. Warrants issued in our May 2017 initial public offering are traded on the Nasdaq Capital Market under the symbol "NDRAW."

We are an "Emerging Growth Company" as defined in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. See "Prospectus Summary – Implications of Being an Emerging Growth Company."

**INVESTING IN OUR SECURITIES INVOLVES RISKS. YOU SHOULD REVIEW CAREFULLY THE RISKS AND UNCERTAINTIES DESCRIBED UNDER THE HEADING "RISK FACTORS" CONTAINED IN THE APPLICABLE PROSPECTUS SUPPLEMENT AND ANY RELATED FREE WRITING PROSPECTUS, AND UNDER SIMILAR HEADINGS IN OTHER DOCUMENTS THAT ARE INCORPORATED BY REFERENCE INTO THIS PROSPECTUS OR ANY SUCH PROSPECTUS SUPPLEMENT. SEE "RISK FACTORS" ON PAGE 3 OF THIS PROSPECTUS.**

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

The date of this prospectus is , 2019.

## Table of Contents

	<b>Page</b>
<a href="#">ABOUT THIS PROSPECTUS</a>	1
<a href="#">FORWARD-LOOKING STATEMENTS</a>	1
<a href="#">THE COMPANY</a>	2
<a href="#">RISK FACTORS</a>	3
<a href="#">USE OF PROCEEDS</a>	3
<a href="#">DESCRIPTION OF SECURITIES WE MAY OFFER</a>	3
<a href="#">DESCRIPTION OF COMMON STOCK WE MAY OFFER</a>	4
<a href="#">DESCRIPTION OF PREFERRED STOCK WE MAY OFFER</a>	4
<a href="#">DESCRIPTION OF DEBT SECURITIES WE MAY OFFER</a>	5
<a href="#">DESCRIPTION OF WARRANTS WE MAY OFFER</a>	13
<a href="#">DESCRIPTION OF UNITS WE MAY OFFER</a>	14
<a href="#">PLAN OF DISTRIBUTION</a>	15
<a href="#">LEGAL MATTERS</a>	16
<a href="#">EXPERTS</a>	16
<a href="#">WHERE YOU CAN FIND MORE INFORMATION</a>	16
<a href="#">INCORPORATION BY REFERENCE</a>	16

## ABOUT THIS PROSPECTUS

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

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

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

Unless otherwise stated or the context requires otherwise, references to “ENDRA”, the “Company,” “we,” “us” or “our” are to ENDRA Life Sciences Inc and its subsidiaries.

## FORWARD-LOOKING STATEMENTS

Certain information set forth in this prospectus or incorporated by reference in this prospectus may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”), and Section 21E of the Exchange Act, that are intended to be covered by the “safe harbor” created by those sections. Forward-looking statements, which are based on certain assumptions and describe our future plans, strategies and expectations, can generally be identified by the use of forward-looking terms such as “believe,” “expect,” “may,” “will,” “should,” “would,” “could,” “seek,” “intend,” “plan,” “estimate,” “goal,” “anticipate,” “project” or other comparable terms. All statements other than statements of historical facts included in this prospectus regarding our strategies, prospects, financial condition, operations, costs, plans and objectives are forward-looking statements. Examples of forward-looking statements include, among others, statements we make regarding: expectations for revenues, cash flows and financial performance, the anticipated results of our development efforts and the timing for receipt of required regulatory approvals and product launches.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside our control. Our actual results and financial condition may differ materially from those in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following:

- our limited commercial experience, limited cash and history of losses;
- our ability to obtain adequate financing to fund our business operations in the future;
- our ability to achieve profitability;
- our ability to develop a commercially feasible application based on our TAEUS technology;
- market acceptance of our technology;

- results of our human studies, which may be negative or inconclusive;
- our ability to find and maintain development partners;
- our reliance on collaborations and strategic alliances and licensing arrangements;
- the amount and nature of competition in our industry;
- our ability to protect our intellectual property;
- potential changes in the healthcare industry or third-party reimbursement practices;
- delays and changes in regulatory requirements, policy and guidelines including potential delays in submitting required regulatory applications for CE mark certification or FDA approval;
- our ability to obtain CE mark certification and secure required FDA and other governmental approvals for our TAEUS applications;
- our ability to comply with regulation by various federal, state, local and foreign governmental agencies and to maintain necessary regulatory clearances or approvals; and
- the other risks and uncertainties described in the Risk Factors and in Management's Discussion and Analysis of Financial Condition and Results of Operations sections of this prospectus.

We urge you to consider those risks and uncertainties in evaluating our forward-looking statements. All subsequent written and oral forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We further caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. Except as otherwise required by the federal securities laws, we undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

#### **THE COMPANY**

We are leveraging experience with pre-clinical enhanced ultrasound devices to develop technology for increasing the capabilities of clinical diagnostic ultrasound, to broaden patient access to the safe diagnosis and treatment of a number of significant medical conditions in circumstances where expensive X-ray computed tomography ("CT") and magnetic resonance imaging ("MRI") technology is unavailable or impractical.

In 2010, we began marketing and selling our Nexus 128 system, which combined light-based thermoacoustics and ultrasound to address the imaging needs of researchers studying disease models in pre-clinical applications. Building on this expertise in thermoacoustics, we have developed a next-generation technology platform — Thermo Acoustic Enhanced Ultrasound, or TAEUS — which is intended to enhance the capability of clinical ultrasound technology and support the diagnosis and treatment of a number of significant medical conditions that currently require the use of expensive CT or MRI imaging or where imaging is not practical using existing technology.

#### **Implications of Being an Emerging Growth Company**

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012, or the JOBS Act, and, for as long as we continue to be an "emerging growth company," we may choose to take advantage of exemptions from various reporting requirements applicable to other public companies but not to "emerging growth companies," including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in our periodic reports and proxy 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 could be an "emerging growth company" until December 31, 2022, or until the earliest of (i) the last day of the first fiscal year in which our annual gross revenues exceed \$1.07 billion, (ii) the date that we become a "large accelerated filer" as defined in Rule 12b-2 under the Securities Exchange Act of 1934, as amended, which would occur if the market value of our common stock that is held by non-affiliates exceeds \$700 million as of the last business day of our most recently completed second fiscal quarter, or (iii) the date on which we have issued more than \$1 billion in non-convertible debt during the preceding three-year period. We are choosing to "opt out" of the extended transition periods available under the JOBS Act for complying with new or revised accounting standards, but intend to take advantage of the other exemptions discussed above.

We are also currently considered a “smaller reporting company,” which generally means that we have a public float of less than \$250 million. If we are still considered a “smaller reporting company” at such time as we cease to be an “emerging growth company,” we will be subject to increased disclosure requirements. However, the disclosure requirements will still be less than they would be if we were not considered either an “emerging growth company” or a “smaller reporting company.” Specifically, similar to “emerging growth companies,” “smaller reporting companies” are able to provide simplified executive compensation disclosures in their filings; are exempt from the provisions of Section 404(b) of the Sarbanes-Oxley Act requiring that independent registered public accounting firms provide an attestation report on the effectiveness of internal control over financial reporting; and have certain other decreased disclosure obligations in their Securities and Exchange Commission, or SEC, filings, including, among other things, being required to provide only two years of audited financial statements in annual reports.

### **Corporate Information**

We were incorporated in Delaware in July 2007 and have a wholly-owned subsidiary, ENDRA Life Sciences Canada Inc. Our corporate headquarters is located at 3600 Green Court, Suite 350, Ann Arbor, Michigan 48105-1570. Our website can be accessed at [www.endrainc.com](http://www.endrainc.com). The telephone number of our principal executive office is (734) 335-0468. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus.

### **RISK FACTORS**

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

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

### **USE OF PROCEEDS**

We currently intend to use the estimated net proceeds from the sale of these securities for working capital and general corporate purposes, including to fund our product development efforts and to fund our commercialization activities for our TAEUS technology. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities. Our plans to use the estimated net proceeds from the sale of these securities may change, and if they do, we will update this information in a prospectus supplement.

### **DESCRIPTION OF SECURITIES WE MAY OFFER**

We may issue from time to time, in one or more offerings, the following securities:

- shares of common stock;
- shares of preferred stock;
- debt securities, which may include senior debt securities, subordinated debt securities and senior subordinated debt securities;
- warrants for the purchase of debt securities, preferred stock or common stock; and
- units consisting of two or more of the foregoing.

Set forth below is a description of the common stock and preferred stock that may be offered under this prospectus. We will set forth in the applicable prospectus supplement and/or free writing prospectus a description of the debt securities and warrants that may be offered under this prospectus. The terms of the offering of our common stock, preferred stock or any such other securities, the initial offering price and the net proceeds to us will be contained in the prospectus supplement, and other offering material, relating to such offer.

We may sell the securities being offered pursuant to this prospectus directly to purchasers, to or through underwriters, through dealers or agents, or through a combination of such methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering of those securities, including the names of any such underwriters, dealers or agents, the purchase price, the net proceeds to us, any underwriting discounts and other items constituting underwriters' compensation, the initial public offering price, any discounts or concessions allowed or reallowed or paid to dealers and any securities exchanges on which such securities may be listed.

#### **DESCRIPTION OF COMMON STOCK WE MAY OFFER**

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

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

##### **Authorized Capital**

We currently have authority to issue 50,000,000 shares of our common stock, par value of \$0.0001 per share. As of December 28, 2018, 7,422,642 shares of our common stock were issued and outstanding, held of record by 32 stockholders. Our authorized but unissued shares of common stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded.

##### **Voting Rights**

Each holder of our common stock is entitled to one vote for each such share outstanding in the holder's name. No holder of common stock is entitled to cumulate votes in voting for directors.

##### **Dividend and Liquidation Rights**

The holders of outstanding shares of our common stock are entitled to such dividends as may be declared by our board of directors out of funds legally available for such purpose. The shares of our common stock are neither redeemable nor convertible. Holders of our common stock have no preemptive or subscription rights to purchase any of our securities. In the event of our liquidation, dissolution or winding up, the holders of our common stock are entitled to receive pro rata our assets, which are legally available for distribution, after payments of all debts and other liabilities. All of the outstanding shares of our common stock are fully paid and non-assessable.

We have never paid any cash dividends on our common stock.

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

#### **DESCRIPTION OF PREFERRED STOCK WE MAY OFFER**

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

## Authorized Preferred Stock

Our Certificate of Incorporation authorizes us to issue 10,000,000 shares of preferred stock, par value \$0.0001 per share. As of December 28, 2018, we had no shares of preferred stock issued and outstanding. Our authorized but unissued shares of preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded.

Our board of directors has the authority to issue preferred stock in one or more series and to fix the designations, powers, rights, preferences, qualifications, limitations and restrictions thereof. These designations, powers, rights and preferences could include voting rights, dividend rights, dissolution rights, conversion rights, exchange rights, redemption rights, liquidation preferences, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing change in our control or other corporate action. No shares of our preferred stock are currently issued and outstanding.

## Specific Terms of a Series of Preferred Stock

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

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

## DESCRIPTION OF DEBT SECURITIES WE MAY OFFER

### General

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

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

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

#### **Information You Will Find in the Prospectus Supplement**

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

- the title and denominations of the debt securities of the series;
- any limit on the aggregate principal amount of the debt securities of the series;
- the date or dates on which the principal and premium, if any, with respect to the debt securities of the series are payable or the method of determination thereof;
- the rate or rates, which may be fixed or variable, at which the debt securities of the series shall bear interest, if any, or the method of calculating and/or resetting such rate or rates of interest;
- the dates from which such interest shall accrue or the method by which such dates shall be determined and the duration of the extensions and the basis upon which interest shall be calculated;
- the interest payment dates for the series of debt securities or the method by which such dates will be determined, the terms of any deferral of interest and any right of ours to extend the interest payment periods;
- the place or places where the principal and interest on the series of debt securities will be payable;
- the terms and conditions upon which debt securities of the series may be redeemed, in whole or in part, at our option or otherwise;
- our obligation, if any, to redeem, purchase, or repay debt securities of the series pursuant to any sinking fund or other specified event or at the option of the holders and the terms of any such redemption, purchase, or repayment;
- the terms, if any, upon which the debt securities of the series may be convertible into or exchanged for other securities, including, among other things, the initial conversion or exchange price or rate and the conversion or exchange period;
- if the amount of principal, premium, if any, or interest with respect to the debt securities of the series may be determined with reference to an index or formula, the manner in which such amounts will be determined;
- if any payments on the debt securities of the series are to be made in a currency or currencies (or by reference to an index or formula) other than that in which such securities are denominated or designated to be payable, the currency or currencies (or index or formula) in which such payments are to be made and the terms and conditions of such payments;
- any changes or additions to the provisions of the indenture dealing with defeasance, including any additional covenants that may be subject to our covenant defeasance option;

- the currency or currencies in which payment of the principal and premium, if any, and interest with respect to debt securities of the series will be payable, or in which the debt securities of the series shall be denominated, and the particular provisions applicable thereto in accordance with the indenture;
- the portion of the principal amount of debt securities of the series which will be payable upon declaration of acceleration or provable in bankruptcy or the method by which such portion or amount shall be determined;
- whether the debt securities of the series will be secured or guaranteed and, if so, on what terms;
- any addition to or change in the events of default with respect to the debt securities of the series;
- the identity of any trustees, authenticating or paying agents, transfer agents or registrars;
- the applicability of, and any addition to or change in, the covenants currently set forth in the indenture;
- the subordination, ranking or priority, if any, of the debt securities of the series and terms of the subordination;
- any other terms of the debt securities of the series which are not prohibited by the indenture; and

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

#### **Senior Debt**

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

#### **Subordinated Debt**

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

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

#### **Senior Subordinated Debt**

We may issue senior subordinated debt securities under the indenture. These senior subordinated debt securities will be, to the extent and in the manner set forth in the applicable indenture supplement, subordinate and junior in right of payment to all of our "senior indebtedness" and senior to our other subordinated debt. See the discussions above under "—Senior Debt" and "—Subordinated Debt" for a more detailed explanation of our senior and subordinated indebtedness.

#### **Interest Rate**

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

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

## Registered Global Securities

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

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

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

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

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

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

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

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

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

## **Payment of Interest on and Principal of Registered Global Securities**

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

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

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

## **Exchange of Registered Global Securities**

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

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

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

## **Covenants by ENDRA**

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

## **Events of Default**

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

- failure to pay when due any interest on any debt security of that series, continued for 30 days;
- failure to pay when due the principal of, or premium, if any, on, any debt security of that series;
- failure to perform any other covenant or agreement of ours under the indenture or the supplemental indenture with respect to that series or the debt securities of that series, continued for 90 days after written notice to us by the trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the series to which the covenant or agreement relates;

- certain events of bankruptcy, insolvency or similar proceedings affecting us; and
- any other event of default specified in any supplemental indenture under which such series of debt securities is issued.

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

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

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

### **Supplemental Indentures**

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

- to add guarantees to or secure any series of debt securities;
- to provide for the succession of another person pursuant to the provisions of the indenture relating to consolidations, mergers and sales of assets and the assumption by such successor of our covenants, agreements, and obligations, or to otherwise comply with the provisions of the indenture relating to consolidations, mergers, and sales of assets;
- to surrender any right or power conferred upon us under the indenture or to add to our covenants further covenants, restrictions, conditions or provisions for the protection of the holders of all or any series of debt securities;
- to cure any ambiguity or to correct or supplement any provision contained in the indenture, in any supplemental indenture or in any debt securities that may be defective or inconsistent with any other provision contained therein;
- to modify or amend the indenture in such a manner as to permit the qualification of the indenture or any supplemental indenture under the Trust Indenture Act;
- to add to or change any of the provisions of the indenture to supplement any of the provisions of the indenture in order to permit the defeasance and discharge of any series of debt securities pursuant to the indenture, so long as any such action does not adversely affect the interests of the holders of debt securities of any series in any material respect;

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

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

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

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

#### **Satisfaction and Discharge of the Indenture; Defeasance**

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

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

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

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

### **Mergers, Consolidations and Certain Sales of Assets**

We may not:

- consolidate with or merge into any other person or entity or permit any other person or entity to consolidate with or merge into us in a transaction in which we are not the surviving entity, or
- transfer, lease or dispose of all or substantially all of our assets to any other person or entity,

unless:

- the resulting, surviving or transferee entity shall be a corporation organized and existing under the laws of the United States or any state thereof and such resulting, surviving or transferee entity shall expressly assume, by supplemental indenture, executed and delivered in form satisfactory to the trustee, all of our obligations under the debt securities and the indenture;
- immediately after giving effect to such transaction (and treating any indebtedness which becomes an obligation of the resulting, surviving or transferee entity as a result of such transaction as having been incurred by such entity at the time of such transaction), no default or event of default would occur or be continuing; and
- we shall have delivered to the trustee an officers' certificate and an opinion of counsel, each stating that such consolidation, merger or transfer and such supplemental indenture (if any) comply with the indenture.

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

### **Governing Law**

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

### **No Personal Liability of Directors, Officers, Employees and Stockholders**

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

### **Conversion or Exchange Rights**

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

- the conversion or exchange price;
- the conversion or exchange period;
- provisions regarding our ability or that of the holder to convert or exchange the debt securities;

- events requiring adjustment to the conversion or exchange price; and
- provisions affecting conversion or exchange in the event of our redemption of such debt securities.

### Concerning the Trustee

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

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

### DESCRIPTION OF WARRANTS WE MAY OFFER

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

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

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

- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange or exercise of such warrants.

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

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

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

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

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

As of December 28, 2018, warrants to purchase a total of 2,575,833 shares of common stock at a weighted average exercise price of \$6.40 per share were outstanding. Warrants to purchase total of 1,932,000 shares of common stock that were issued as part of the units issued in our initial public offering, which expire in May 2022 and have an exercise price of \$6.25 per share. Warrants to purchase a total of 154,560 shares of common stock issued to the underwriters in our initial public offering also expire in May 2022 and have an exercise price of \$6.25 per share. Warrants to purchase a total of 118,737 shares of common stock expire in May 2020 and have an exercise price of \$20.03 per share. Warrants to purchase a total of 10,000 shares of common stock expire in May 2020 and have an exercise price of \$5.50 per share. Warrants to purchase a total of 20,000 shares of common stock expire in November 2020 and have an exercise price of \$4.49 per share. Warrants to purchase a total of 20,000 shares of common stock expire in January 2021 and have an exercise price of \$5.50 per share. Warrants to purchase a total of 320,536 shares of common stock expire in June 2021 and have an exercise price of \$2.52 per share.

#### **DESCRIPTION OF UNITS WE MAY OFFER**

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;

- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

#### PLAN OF DISTRIBUTION

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

We and our agents and underwriters may offer and sell the securities at a fixed price or prices that may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. The securities may be offered on an exchange, which will be disclosed in the applicable prospectus supplement. We may, from time to time, authorize dealers, acting as our agents, to offer and sell the securities upon such terms and conditions as set forth in the applicable prospectus supplement.

If we use underwriters to sell securities, we will enter into an underwriting agreement with them at the time of the sale to them. In connection with the sale of the securities, underwriters may receive compensation from us in the form of underwriting discounts or commissions and may also receive commissions from purchasers of the securities for whom they may act as agent. Any underwriting compensation paid by us to underwriters or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers, will be set forth in the applicable prospectus supplement to the extent required by applicable law. Underwriters may sell the securities to or through dealers, and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions (which may be changed from time to time) from the purchasers for whom they may act as agents.

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

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

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

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

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

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

#### **LEGAL MATTERS**

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

#### **EXPERTS**

RBSM LLP, independent registered public accounting firm, has audited our financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference into this prospectus and elsewhere in the registration statement of which this prospectus is a part. Our financial statements are incorporated by reference in reliance on RBSM LLP's report, given on their authority as experts in accounting and auditing.

#### **WHERE YOU CAN FIND MORE INFORMATION**

We file annual, quarterly and special reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). You can inspect and copy these reports, proxy statements and other information at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D. C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. The SEC also maintains a web site that contains reports, proxy and information statements and other information regarding issuers, such as ENDRA Life Sciences Inc. ([www.sec.gov](http://www.sec.gov)). Our web site is located at [www.endrainc.com](http://www.endrainc.com). The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus.

We will provide, upon written or oral request, without charge to you, including any beneficial owner to whom this prospectus is delivered, a copy of any or all of the documents incorporated herein by reference other than the exhibits to those documents, unless the exhibits are specifically incorporated by reference into the information that this prospectus incorporates. You should direct a request for copies to ENDRA Life Sciences Inc., 3600 Green Court, Suite 350, Ann Arbor, Michigan 48105; Telephone: (734) 335-0468.

#### **INCORPORATION BY REFERENCE**

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 20, 2018 (as amended by Form 10-K/A filed with the SEC on April 13, 2018);

- Quarterly Reports on Form 10-Q for the quarter ended March 30, 2018 filed with the SEC on May 15, 2018, the quarter ended June 30, 2018 filed with the SEC on August 13, 2018 and the quarter ended September 30, 2018 filed with the SEC on November 5, 2018;
- Current Reports on Form 8-K filed with the SEC on February 5, 2018, March 29, 2018 (as amended by Form 8-K/A filed on April 13, 2018), June 15, 2018; July 2, 2018, August 17, 2018, October 16, 2018 and November 13, 2018;
- Definitive Proxy Statement on Schedule 14A related to our 2018 Annual Meeting of Stockholders, filed with the SEC on May 10, 2018; and
- The description of the Company's Common Stock contained in the Company's Registration Statement on Form 8-A (File No. 001-37969) filed with the SEC on December 16, 2016 pursuant to Section 12(g) of the Exchange Act on December 26, 2000, including any amendment or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made on or after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the Securities made by this prospectus and will become a part of this prospectus from the date that such documents are filed with the SEC. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to ENDRA Life Sciences Inc., 3600 Green Court, Suite 350, Ann Arbor, Michigan 48105; Telephone: (734) 335-0468. Copies of the above reports may also be accessed from our web site at [www.endrainc.com](http://www.endrainc.com). We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

Any statement contained in a document incorporated or deemed to be incorporated by reference in 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 in any other subsequently filed document which also is or is deemed to be incorporated by reference in this prospectus modifies or supersedes that statement. Any statement that is modified or superseded will not constitute a part of this prospectus, except as modified or superseded.



# ENDRA

## LIFE SCIENCES

**ENDRA Life Sciences Inc.**

**\$20,000,000**

Common Stock  
Preferred Stock  
Debt Securities  
Warrants  
Units

**PROSPECTUS**

**, 2019**

**PART II**

**INFORMATION NOT REQUIRED IN PROSPECTUS**

**Item 14. Other Expenses of Issuance and Distribution.**

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

SEC registration fee	\$	2,424
Printing Expenses		*
NASDAQ Listing Fees		*
Trustee Fees and Expenses		*
Accounting Fees and Expenses		*
Legal Fees and Expenses		*
Miscellaneous		*
Total	\$	2,424

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

**Item 15. Indemnification of Directors and Officers.**

The following summary is qualified in its entirety by reference to the complete text of any statutes referred to below and the Fourth Amended and Restated Certificate of Incorporation of ENDRA Life Sciences Inc., a Delaware corporation.

Section 145 of the General Corporation Law of the State of Delaware (the "DGCL") permits a Delaware corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person 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 person's conduct was unlawful.

In the case of an action by or in the right of the corporation, Section 145 of the DGCL permits a Delaware corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses that the Court of Chancery or such other court shall deem proper.

Section 145 of the DGCL also permits a Delaware corporation to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under Section 145 of the DGCL.

Article NINTH of our Fourth Amended and Restated Certificate of Incorporation states that our directors shall not be personally liable to us or to our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability. Under Section 102(b)(7) of the DGCL, the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty can be limited or eliminated except (i) for any breach of the director's duty of loyalty to the corporation or its stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (iii) under Section 174 of the DGCL (relating to unlawful payment of dividend or unlawful stock purchase or redemption); or (iv) for any transaction from which the director derived an improper personal benefit.

Article EIGHTH of our Fourth Amended and Restated Certificate of Incorporation provides that we shall indemnify (and advance expenses to) our officers and directors to the full extent permitted by the DGCL.

All of the Company's directors and officers are covered by insurance policies maintained by the Company against specified liabilities for actions taken in their capacities as such, including liabilities under the Securities Act. Such insurance also insures us against losses which we may incur in indemnifying our officers and directors.

As permitted by the DGCL, we have entered into indemnification agreements with each of our directors and executive officers that require us to indemnify them against various actions including, but not limited to, third-party actions where such director or executive officer, by reason of his or her corporate status, is a party or is threatened to be made a party to an action, or by reason of anything done or not done by such director in any such capacity. We indemnify directors and executive officers against all costs, judgments, penalties, fines, liabilities, amounts paid in settlement by or on behalf of such directors or executive officers and for any expenses actually and reasonably incurred by such directors or executive officers in connection with such action, if such directors or executive officers acted in good faith and in a manner they reasonably believed to be in or not opposed to our best interests, and with respect to any criminal proceeding, had no reasonable cause to believe their conduct was unlawful. We also intend to advance to our directors and executive officers expenses (including attorney's fees) incurred by or on behalf of such directors and executive officers in advance of the final disposition of any action after our receipt of a statement or statements from directors or executive officers requesting such payment or payments from time to time, provided that such statement or statements are preceded or accompanied by a written undertaking, by or on behalf of such directors or executive officers, to repay such amount if it shall ultimately be determined that they are not entitled to be indemnified against such expenses by us.

The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification or advancement of expenses, including, among others, provisions about submitting a written request to us that includes such documentation and information as is reasonably available to the director or executive officer and is reasonably necessary to determine entitlement to indemnification and provisions.

Item 16. Exhibits.

Exhibit Number	Exhibit Description	Filed Herewith	Form	Incorporated by Reference		
				Exhibit	Filing Date	Registration/File No.
1.1	Form of Underwriting Agreement*					
<a href="#">4.1</a>	Fourth Amended and Restated Certificate of Incorporation of the Company		8-K	3.2	05/12/17	001-37969
<a href="#">4.2</a>	Amended and Restated Bylaws of the Company		S-1	3.4	11/21/16	333-214724
<a href="#">4.3</a>	Specimen Certificate representing shares of common stock of the Registrant		S-1	4.1	11/21/16	333-214724
<a href="#">4.4</a>	Form of Senior Secured Convertible Promissory Note		8-K	4.1	07/02/18	001-37969
<a href="#">4.5</a>	Form of Common Stock Warrant		8-K	4.2	07/02/18	001-37969
4.6	Form of certificate representing preferred stock*					
4.7	Form of certificate of designations for preferred stock*					
<a href="#">4.8</a>	Form of Indenture relating to the issuance from time to time in one or more series of debentures, notes, bonds or other evidences of indebtedness	X				
4.9	Form of Senior Debt Security*					
4.10	Form of Subordinated Debt Security*					
4.11	Form of Warrant*					
4.12	Form of Unit Certificate*					
<a href="#">5.1</a>	Opinion of K&L Gates LLP as to legality of securities being registered	X				
<a href="#">23.1</a>	Consent of RBSM LLP, Independent Registered Public Accounting Firm	X				
<a href="#">23.2</a>	Consent of K&L Gates LLP (contained in Exhibit 5.1)	X				
24.1	Power of Attorney (included on signature page)	X				
25.1	Form T-1 Statement of Eligibility of Trustee under the Trust Indenture Act of 1939, as amended**					

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

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

## Item 17. Undertakings.

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

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
  - (i) to include any prospectus required by Section 10(a)(3) of the Securities Act;
  - (ii) to reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the SEC pursuant to Rule 424(b) under the Securities Act if, in the aggregate, the changes in volume and price represent no more than 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement); and
  - (iii) to include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement;

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

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

- (5) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser, if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness; provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use
- (6) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser: (i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424; (ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant; (iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and (iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (7) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in this registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (8) That, for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act of 1933 shall be deemed to be part of this registration statement as of the time it was declared effective.
- (9) That, for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (10) To file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Commission under Section 305(b)(2) of the Act.

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ann Arbor, State of Michigan, on this 28th day of December 2018.

### ENDRA Life Sciences Inc.

/s/ Francois Michelin  
Francois Michelin  
Chief Executive Officer and Director  
(Principal Executive Officer)

### POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints Francois Michelin and Michael Thornton and each of them, his true and lawful attorney-in-fact and agent, each with full power of substitution and resubstitution, severally, for him and in his name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, 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 and necessary to be done in and about the premises, as fully to all intents and purposes as 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 his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof. This power of attorney may be executed in counterparts.

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

Dated: December 28, 2018

/s/ Francois Michelin  
Francois Michelin  
Chief Executive Officer and Director  
(Principal Executive Officer)

Dated: December 28, 2018

/s/ David R. Wells  
David R. Wells  
Chief Financial Officer  
(Principal Financial and Accounting Officer)

Dated: December 28, 2018

/s/ Anthony DiGiandomenico  
Anthony DiGiandomenico, Director

Dated: December 28, 2018

/s/ Sanjiv Gambhir, M.D., Ph.D.  
Sanjiv Gambhir, M.D., Ph.D., Director

Dated: December 28, 2018

/s/ Michael Harsh  
Michael Harsh, Director

Dated: December 28, 2018

/s/ Alexander Tokman  
Alexander Tokman, Director

**INDENTURE**

**between**

ENDRA Life Sciences Inc.

**and**

[\_\_\_\_\_]

TRUSTEE

**Dated as of [\_\_\_\_\_]**

Providing for Issuance of

**Debt Securities in Series**

---

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

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

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

## TABLE OF CONTENTS

	Page
ARTICLE I DEFINITIONS AND OTHER PROVISIONS OF GENERAL APPLICATION	1
Section 1.1. DEFINITIONS	1
Section 1.2. COMPLIANCE CERTIFICATES AND OPINIONS	8
Section 1.3. FORM OF DOCUMENTS DELIVERED TO TRUSTEE	9
Section 1.4. ACTS OF HOLDERS	9
Section 1.5. NOTICES, ETC., TO TRUSTEE AND COMPANY	11
Section 1.6. NOTICE TO HOLDERS; WAIVER	11
Section 1.7. HEADINGS AND TABLE OF CONTENTS	12
Section 1.8. SUCCESSOR AND ASSIGNS	12
Section 1.9. SEPARABILITY	12
Section 1.10. BENEFITS OF INDENTURE	12
Section 1.11. GOVERNING LAW	12
Section 1.12. WAIVER OF JURY TRIAL	13
Section 1.13. LEGAL HOLIDAYS	13
Section 1.14. NO RECOURSE AGAINST OTHERS	13
ARTICLE II SECURITY FORMS	13
Section 2.1. FORMS GENERALLY	13
Section 2.2. FORM OF TRUSTEE'S CERTIFICATE OF AUTHENTICATION	14
Section 2.3. SECURITIES IN GLOBAL FORM	14
Section 2.4. FORM OF LEGEND FOR SECURITIES IN GLOBAL FORM	15
ARTICLE III THE SECURITIES	15
Section 3.1. AMOUNT UNLIMITED; ISSUABLE IN SERIES	15
Section 3.2. DENOMINATIONS	18
Section 3.3. EXECUTION, AUTHENTICATION, DELIVERY AND DATING	19
Section 3.4. TEMPORARY SECURITIES	21
Section 3.5. REGISTRATION, TRANSFER AND EXCHANGE	22
Section 3.6. REPLACEMENT SECURITIES	24
Section 3.7. PAYMENT OF INTEREST; INTEREST RIGHTS PRESERVED	25
Section 3.8. PERSONS DEEMED OWNERS	26
Section 3.9. CANCELLATION	27
Section 3.10. COMPUTATION OF INTEREST	27
Section 3.11. CURRENCY AND MANNER OF PAYMENT IN RESPECT OF SECURITIES	27
Section 3.12. APPOINTMENT AND RESIGNATION OF EXCHANGE RATE AGENT	31
Section 3.13. WIRE TRANSFERS	32
Section 3.14. CUSIP NUMBERS AND ISINS	32
ARTICLE IV SATISFACTION, DISCHARGE AND DEFEASANCE	32
Section 4.1. TERMINATION OF COMPANY'S OBLIGATIONS UNDER THE INDENTURE	32
Section 4.2. APPLICATION OF TRUST FUNDS	33
Section 4.3. APPLICABILITY OF DEFEASANCE PROVISIONS; COMPANY'S OPTION TO EFFECT DEFEASANCE OR COVENANT	33
DEFEASANCE	33
Section 4.4. DEFEASANCE AND DISCHARGE	34

Section 4.5. COVENANT DEFEASANCE	34
Section 4.6. CONDITIONS TO DEFEASANCE OR COVENANT DEFEASANCE	34
Section 4.7. DEPOSITED MONEY AND GOVERNMENT OBLIGATIONS TO BE HELD IN TRUST	36
Section 4.8. REPAYMENT TO COMPANY	37
Section 4.9. INDEMNITY FOR GOVERNMENT OBLIGATIONS	37
ARTICLE V DEFAULTS AND REMEDIES	37
Section 5.1. EVENTS OF DEFAULT	37
Section 5.2. ACCELERATION; RESCISSION AND ANNULMENT	38
Section 5.3. COLLECTION OF INDEBTEDNESS AND SUITS FOR ENFORCEMENT BY TRUSTEE	38
Section 5.4. TRUSTEE MAY FILE PROOFS OF CLAIM	39
Section 5.5. TRUSTEE MAY ENFORCE CLAIMS WITHOUT POSSESSION OF SECURITIES	39
Section 5.6. DELAY OR OMISSION NOT WAIVER	39
Section 5.7. WAIVER OF PAST DEFAULTS	39
Section 5.8. CONTROL BY MAJORITY	40
Section 5.9. LIMITATION ON SUITS BY HOLDERS	40
Section 5.10. RIGHTS OF HOLDERS TO RECEIVE PAYMENT	40
Section 5.11. APPLICATION OF MONEY COLLECTED	41
Section 5.12. RESTORATION OF RIGHTS AND REMEDIES	42
Section 5.13. RIGHTS AND REMEDIES CUMULATIVE	42
ARTICLE VI THE TRUSTEE	42
Section 6.1. DUTIES AND RESPONSIBILITIES OF TRUSTEE; RELIANCE ON DOCUMENTS, OPINIONS, ETC	42
Section 6.2. TRUSTEE, PAYING AGENTS, CONVERSION AGENTS OR REGISTRAR MAY HOLD SECURITIES	46
Section 6.3. MONIES TO BE HELD IN TRUST	46
Section 6.4. NO RESPONSIBILITIES FOR RECITALS, ETC	46
Section 6.5. NOTICE OF DEFAULTS	47
Section 6.6. REPORTS BY TRUSTEE TO HOLDERS	47
Section 6.7. SECURITY HOLDER LISTS	47
Section 6.8. COMPENSATION AND INDEMNITY	48
Section 6.9. SEPARATE TRUSTEE; REPLACEMENT OF TRUSTEE	48
Section 6.10. ACCEPTANCE OF APPOINTMENT BY SUCCESSOR	50
Section 6.11. ELIGIBILITY; DISQUALIFICATION	51
Section 6.12. MERGER, CONVERSION, CONSOLIDATION OR SUCCESSION TO BUSINESS	51
Section 6.13. APPOINTMENT OF AUTHENTICATING AGENT	51
ARTICLE VII CONSOLIDATION, MERGER OR SALE BY THE COMPANY	53
Section 7.1. CONSOLIDATION, MERGER OR SALE OF ASSETS	53
ARTICLE VIII SUPPLEMENTAL INDENTURES	53
Section 8.1. SUPPLEMENTAL INDENTURES WITHOUT CONSENT OF HOLDERS	53
Section 8.2. WITH CONSENT OF HOLDERS	54
Section 8.3. COMPLIANCE WITH TRUST INDENTURE ACT	55
Section 8.4. EXECUTION OF SUPPLEMENTAL INDENTURES	55

Section 8.5. EFFECT OF SUPPLEMENTAL INDENTURES	56
Section 8.6. REFERENCE IN SECURITIES TO SUPPLEMENTAL INDENTURES	56
ARTICLE IX COVENANTS	56
Section 9.1. PAYMENT OF PRINCIPAL, PREMIUM, IF ANY, AND INTEREST	56
Section 9.2. MAINTENANCE OF OFFICE OR AGENCY	56
Section 9.3. MONEY FOR SECURITIES TO BE HELD IN TRUST; UNCLAIMED MONEY	57
Section 9.4. CORPORATE EXISTENCE	58
Section 9.5. REPORTS BY THE COMPANY	58
Section 9.6. ANNUAL REVIEW CERTIFICATE	58
ARTICLE X REDEMPTION	59
Section 10.1. APPLICABILITY OF ARTICLE	59
Section 10.2. ELECTION TO REDEEM; NOTICE TO TRUSTEE	59
Section 10.3. SELECTION OF SECURITIES TO BE REDEEMED	59
Section 10.4. NOTICE OF REDEMPTION	60
Section 10.5. DEPOSIT OF REDEMPTION PRICE	61
Section 10.6. SECURITIES PAYABLE ON REDEMPTION DATE	61
Section 10.7. SECURITIES REDEEMED IN PART	62
ARTICLE XI SINKING FUNDS	62
Section 11.1. APPLICABILITY OF ARTICLE	62
Section 11.2. SATISFACTION OF SINKING FUND PAYMENTS WITH SECURITIES	62
Section 11.3. REDEMPTION OF SECURITIES FOR SINKING FUND	62

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

## RECITALS

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

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

## ARTICLE I DEFINITIONS AND OTHER PROVISIONS OF GENERAL APPLICATION

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

- (1) the terms defined in this Article have the meanings assigned to them in this Article and include the plural as well as the singular;
- (2) all other terms used herein which are defined in the Trust Indenture Act, either directly or by reference therein, have the meanings assigned to them therein;
- (3) all accounting terms not otherwise defined herein have the meanings assigned to them in accordance with generally accepted accounting principles; and
- (4) the words "herein", "hereof" and "hereunder" and other words of similar import refer to this Indenture as a whole and not to any particular Article, Section or other subdivision.

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

"Agent" means any Paying Agent or Registrar.

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

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

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

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

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

"Common Stock" means the shares of common stock, \$0.0001 par value per share, of the Company.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

"Officer's Certificate" means a certificate signed by an Officer of the Company.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) a statement that the individual signing such certificate or opinion has read such condition or covenant and any definitions in this Indenture that are used in such certificate or opinion;

(2) a brief statement as to the nature and scope of the examination or investigation upon which the statements or opinions contained in such certificate or opinion are based;

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

(4) a statement as to whether, in the opinion of such individual, such condition or covenant has been complied with.

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

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

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

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

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

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

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

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

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

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

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

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

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

if to the Company:

ENDRA Life Sciences Inc.  
3600 Green Court, Suite 350,

Ann Arbor, MI 48105-1570  
Attention: Chief Executive Officer

if to the Trustee:

[●]

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## **ARTICLE II SECURITY FORMS**

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

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

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

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

**Dated:** \_\_\_\_\_, **as Trustee**

**By:** \_\_\_\_\_

**AUTHORIZED SIGNATORY**

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

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

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

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

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

### **ARTICLE III THE SECURITIES**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Such Opinion of Counsel need express no opinion as to the enforceability of Section 6.8 or as to whether a court in the United States would render a money judgment in a currency other than that of the United States. Such counsel may rely on opinions of other counsel (copies of which shall be delivered to the Trustee), and, to the extent such opinion involves factual matters, such counsel may rely upon certificates of officers of the Company and certificates of public officials.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### Section 3.7. PAYMENT OF INTEREST; INTEREST RIGHTS PRESERVED

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

#### **ARTICLE IV SATISFACTION, DISCHARGE AND DEFEASANCE**

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

(1) either

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

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

(i) have become due and payable, or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

## **ARTICLE V DEFAULTS AND REMEDIES**

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

- (1) the Company defaults in the payment of interest on any Security of that series or any additional amount payable with respect to any Security of that series as specified pursuant to Section 3.1(b)(17) when the same becomes due and payable and such default continues for a period of 30 days;
- (2) the Company defaults in the payment of the principal of or any premium on any Security of that series when the same becomes due and payable at its Maturity or on redemption or otherwise, or in the payment of a mandatory sinking fund payment when and as due by the terms of the Securities of that series;
- (3) the Company defaults in the performance of, or breaches, any covenant or warranty of the Company in this Indenture with respect to any Security of that series (other than a covenant or warranty a default in whose performance or whose breach is elsewhere in this Section specifically dealt with), and such default or breach continues for a period of 90 days after there has been given, by registered or certified mail, to the Company by the Trustee or to the Company and the Trustee by the Holders of at least 25% in principal amount of the Outstanding Securities of that series, a written notice specifying such default or breach and requiring it to be remedied and stating that such notice is a "Notice of Default" hereunder;
- (4) the Company, pursuant to or within the meaning of any Bankruptcy Law, (A) commences a voluntary case, (B) consents to the entry of an order for relief against it in an involuntary case, (C) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (D) makes a general assignment for the benefit of its creditors;

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

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

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

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

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

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

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

(2) default is made in the payment of the principal of (or premium, if any, on) any Security of any series at the Maturity thereof and such default continues for a period of 10 days, the Company will, upon demand of the Trustee, pay to it, for the benefit of the Holders of such Securities, the whole amount then due and payable on such Securities for principal, premium, if any, and interest and, to the extent that payment of such interest shall be legally enforceable, interest on any overdue principal, premium, if any, and on any overdue interest, at the rate or rates prescribed therefor in such Securities.

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

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

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

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

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

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

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

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

- (1) the Holder has previously given written notice to the Trustee of a continuing Event of Default with respect to the Securities of that series;
- (2) the Holders of at least 25% in aggregate principal amount of the Outstanding Securities of that series have made a written request to the Trustee to institute proceedings in respect of such Event of Default in its own name as Trustee hereunder;
- (3) such Holder or Holders have offered to the Trustee indemnity satisfactory to the Trustee against any loss, liability or expense to be, or which may be, incurred by the Trustee in pursuing the remedy;
- (4) the Trustee for 60 days after its receipt of such notice, request and the offer of indemnity has failed to institute any such proceedings; and
- (5) during such 60 day period, the Holders of a majority in aggregate principal amount of the Outstanding Securities of that series have not given to the Trustee a direction inconsistent with such written request.

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

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

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

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

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

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

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

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

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

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

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

## **ARTICLE VI THE TRUSTEE**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(c) If at any time:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[\_\_\_\_\_] , **as Trustee**

*By*  
**as Authenticating Agent**

*By*  
**Authorized Signatory**

**ARTICLE VII**  
**CONSOLIDATION, MERGER OR SALE BY THE COMPANY**

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

**ARTICLE VIII**  
**SUPPLEMENTAL INDENTURES**

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

(1) to evidence the succession of another Person to the Company and the assumption by any such successor of the covenants and obligations of the Company herein and in Securities (with such changes herein and therein as may be necessary or advisable to reflect such Person's legal status, if such Person is not a corporation); or

(2) to add to the covenants of the Company for the benefit of the Holders of all or any series of Securities (and if such covenants are to be for the benefit of less than all series of Securities, stating that such covenants are expressly being included solely for the benefit of such series) or to surrender any right or power herein conferred upon the Company or to comply with any requirement of the Commission or otherwise in connection with the qualification of this Indenture under the Trust Indenture Act or otherwise; or

(3) to add any additional Events of Default with respect to all or any series of Securities; or

(4) to add to or change any of the provisions of this Indenture to such extent as shall be necessary to facilitate or provide for the issuance of Securities in global form in addition to or in place of Securities in certificated form; or

(5) to change or eliminate any of the provisions of this Indenture, provided that any such change or elimination shall become effective only with respect to Securities which have not been issued as of the execution of such supplemental indenture or when there is no Security Outstanding of any series created prior to the execution of such supplemental indenture which is entitled to the benefit of such provision; or

(6) to add guarantees with respect to all or any series of Securities; or

(7) to convey, transfer, assign, mortgage or pledge any property to or with the Trustee; or

(8) to supplement any of the provisions of this Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Securities pursuant to Sections 4.1, 4.4, and 4.5; provided that any such action shall not adversely affect the interests of the Holders of Securities of such series or any other series of Securities in any material respect; or

(9) to establish the form or terms of Securities of any series as permitted by Sections 2.1 and 3.1; or

(10) to provide for the delivery of indentures supplemental hereto or the Securities of any series in or by means of any computerized, electronic or other medium, including without limitation by computer diskette; or

(11) to evidence and provide for the acceptance of appointment hereunder by a successor or separate Trustee with respect to the Securities of one or more series and/or to add to or change any of the provisions of this Indenture as shall be necessary to provide for or facilitate the administration of the trusts hereunder by more than one Trustee, pursuant to the requirements of Article VI; or

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

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

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

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

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

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

(4) modify the ranking or priority of the Securities of such series.

For the purposes of this Section 8.2, if the Securities of any series are issuable upon the exercise of warrants, any holder of an unexercised and unexpired warrant with respect to such series shall not be deemed to be a Holder of Outstanding Securities of such series in the amount issuable upon the exercise of such warrants.

A supplemental indenture which changes or eliminates any covenant or other provision of this Indenture which has expressly been included solely for the benefit of one or more particular series of Securities, or which modifies the rights of the Holders of Securities of such series with respect to such covenant or other provision, shall be deemed not to affect the rights under this Indenture of the Holders of Securities of any other series.

It is not necessary under this Section 8.2 for the Holders to consent to the particular form of any proposed supplemental indenture, but it is sufficient if they consent to the substance thereof.

Section 8.3. COMPLIANCE WITH TRUST INDENTURE ACT. Every amendment to this Indenture or the Securities of one or more series shall be set forth in a supplemental indenture that complies with the Trust Indenture Act as then in effect.

Section 8.4. EXECUTION OF SUPPLEMENTAL INDENTURES. In executing, or accepting the additional trusts created by, any supplemental indenture permitted by this Article or the modification thereby of the trusts created by this Indenture, the Trustee shall be entitled to receive, and shall be fully protected in relying upon an Officer's Certificate and Opinion of Counsel stating that all conditions precedent to the execution of such supplemental indenture have been satisfied and an Opinion of Counsel stating that the execution of such supplemental indenture is authorized or permitted by this Indenture and that such supplemental indenture is the legal, valid and binding obligation of the Company. The Trustee may, but shall not be obligated to, enter into any such supplemental indenture which adversely affects the Trustee. The Trustee shall enter into any such supplemental indenture presented to it by the Company in compliance with this Article VIII if such supplemental indenture does not adversely affect the Trustee, as determined in its sole discretion. In formulating its opinion on such matters the Trustee shall be entitled to rely on such evidence as it deems appropriate, which may be or include, without limitation, reliance solely on an opinion or advice of its counsel.

Section 8.5. EFFECT OF SUPPLEMENTAL INDENTURES. Upon the execution of any supplemental indenture under this Article, this Indenture shall be modified in accordance therewith, and such supplemental indenture shall form a part of this Indenture for all purposes; and every Holder of Securities of the applicable series theretofore or thereafter authenticated and delivered hereunder and shall be bound thereby; provided that if such supplemental indenture makes any of the changes described in clauses (1) through (4) of the first proviso to Section 8.2, such supplemental indenture shall bind each Holder of a Security of the applicable series who has consented to it and every subsequent Holder of such Security or any part thereof.

Section 8.6. REFERENCE IN SECURITIES TO SUPPLEMENTAL INDENTURES. Securities of any series authenticated and delivered after the execution of any supplemental indenture pursuant to this Article may, and shall if required by the Trustee, bear a notation in form approved by the Trustee as to any matter provided for in such supplemental indenture. If the Company shall so determine, new Securities of any series so modified as to conform, in the opinion of the Trustee and the Company, to any such supplemental indenture may be prepared and executed by the Company and authenticated and delivered by the Trustee in exchange for Outstanding Securities of such series.

## **ARTICLE IX COVENANTS**

Section 9.1. PAYMENT OF PRINCIPAL, PREMIUM, IF ANY, AND INTEREST. The Company covenants and agrees for the benefit of the Holders of each series of Securities that it will duly and punctually pay the principal of, premium, if any, and interest on the Securities of that series in accordance with the terms of the Securities of such series, and this Indenture. An installment of principal, premium, if any, or interest shall be considered paid on the date it is due if the Trustee or Paying Agent holds on that date money designated for and sufficient to pay the installment.

Section 9.2. MAINTENANCE OF OFFICE OR AGENCY. If Securities of a series are issued as Registered Securities, the Company will maintain in each Place of Payment for any series of Securities an office or agency where Securities of that series may be presented or surrendered for payment, where Securities of that series may be surrendered for registration of transfer or exchange and where notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be served. The Company will give prompt written notice to the Trustee of the location, and any change in the location, of any such office or agency. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, surrenders, notices and demands may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations, surrenders, notices and demands (provided, however, that the foregoing appointment shall not impose or imply any obligation on the part of the Trustee to maintain any office for any such purposes other than the Corporate Trust Office.)

Subject to the preceding paragraphs, the Company may also from time to time designate one or more other offices or agencies where the Securities of one or more series may be presented or surrendered for any or all such purposes and may from time to time rescind such designations; provided, however, that no such designation or rescission shall in any manner relieve the Company of its obligation to maintain an office or agency in each Place of Payment for Securities of any series for such purposes. The Company will give prompt written notice to the Trustee of any such designation or rescission and of any change in the location of any such other office or agency.

Unless otherwise specified as contemplated by Section 3.1, the Trustee shall initially serve as Paying Agent. The Paying Agent may make reasonable rules not inconsistent herewith for the performance of its functions.

Section 9.3. MONEY FOR SECURITIES TO BE HELD IN TRUST; UNCLAIMED MONEY . If the Company shall at any time act as its own Paying Agent with respect to any series of Securities, it will, on or before each due date of the principal of, premium, if any, or interest on any of the Securities of that series, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay the principal, premium, if any, or interest so becoming due until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee in writing of any failure so to act.

Whenever the Company shall have one or more Paying Agents for any series of Securities, it will, on or prior to each due date of the principal of or any premium or interest on any Securities of that series, deposit with a Paying Agent a sum sufficient to pay such amount, such sum to be held as provided by the Trust Indenture Act, and (unless such Paying Agent is the Trustee) the Company will promptly notify the Trustee of any failure so to act.

If the Company is not acting as its own Paying Agent, the Company will cause each Paying Agent for any series of Securities other than the Trustee to execute and deliver to the Trustee an instrument in which such Paying Agent shall agree with the Trustee, subject to the provisions of this Section, that such Paying Agent will:

(1) hold all sums held by it for the payment of the principal of, premium, if any, or interest on Securities of that series in trust for the benefit of the Persons entitled thereto until such sums shall be paid to such Persons or otherwise disposed of as herein provided;

(2) give the Trustee notice of any Default by the Company (or any other obligor upon the Securities of that series) in the making of any payment of principal, premium, if any, or interest on the Securities of that series; and

(3) at any time during the continuance of any such Default, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such Paying Agent.

Notwithstanding anything in this Section 9.3 to the contrary, the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture, or with respect to one or more series of Securities, or for any other purpose, pay, or by Company Order direct any Paying Agent to pay, to the Trustee all sums held in trust by the Company or such Paying Agent, such sums to be held by the Trustee upon the same trusts as those upon which such sums were held by the Company or such Paying Agent; and, upon such payment by any Paying Agent to the Trustee, such Paying Agent shall be released from all further liability with respect to such money.

Subject to applicable abandoned property laws, any money deposited with the Trustee or any Paying Agent, or then held by the Company, in trust for the payment of any principal, premium or interest or other amounts on any Security of any series and remaining unclaimed for two years after such principal, premium, if any, or interest or other amounts has become due and payable shall be paid to the Company (including interest income on such funds, if any), or (if then held by the Company) shall be discharged from such trust; and the Holder of such Security, shall thereafter, as an unsecured general creditor, look only to the Company for payment thereof, and all liability of the Trustee or such Paying Agent with respect to such trust money, and all liability of the Company as trustee thereof, shall thereupon cease.

Section 9.4. CORPORATE EXISTENCE. Subject to Article VII, the Company will at all times do or cause to be done all things necessary to preserve and keep in full force and effect its corporate existence.

Section 9.5. REPORTS BY THE COMPANY. The Company covenants, at any time at which there are Outstanding Securities of any series issued under this Indenture:

(a) to file with the Trustee, within 30 days after the Company is required to file the same with the Commission, copies of the annual reports and of the information, documents and other reports (or copies of such portions of any of the foregoing as the Commission may from time to time by rules and regulations prescribe) which the Company may be required to file with the Commission pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934, as amended; or, if the Company is not required to file information, documents or reports pursuant to either of such sections, then to file with the Trustee and the Commission, in accordance with rules and regulations prescribed from time to time by the Commission, such of the supplementary and periodic information, documents and reports which may be required pursuant to section 13 of the Securities Exchange Act of 1934, as amended, in respect of a security listed and registered on a national securities exchange as may be prescribed from time to time in such rules and regulations;

(b) to file with the Trustee and the Commission, in accordance with the rules and regulations prescribed from time to time by the Commission, such additional information, documents and reports with respect to compliance by the Company with the conditions and covenants provided for in this Indenture, as may be required from time to time by such rules and regulations; and

(c) to transmit to all Holders of Securities within 30 days after the filing thereof with the Trustee, in the manner and to the extent provided in section 313(c) of the Trust Indenture Act, such summaries of any information, documents and reports required to be filed by the Company pursuant to subsections (a) and (b) of this Section 9.5, as may be required by rules and regulations prescribed from time to time by the Commission.

Section 9.6. ANNUAL REVIEW CERTIFICATE. At any time at which there are Outstanding Securities of any series issued under this Indenture, the Company covenants and agrees to deliver to the Trustee, within 120 days after the end of each fiscal year of the Company, a brief certificate from the principal executive officer, principal financial officer, or principal accounting officer as to his or her knowledge of whether the Company is in Default under this Indenture. For purposes of this Section 9.6, such compliance shall be determined without regard to any period of grace or requirement of notice provided under this Indenture.

**ARTICLE X  
REDEMPTION**

Section 10.1. APPLICABILITY OF ARTICLE. Securities of or within any series which are redeemable in whole or in part before their Stated Maturity shall be redeemable in accordance with their terms and (except as otherwise specified in the applicable Board Resolution or supplemental indenture with respect to such series of Securities, as contemplated by Section 3.1 for Securities of any series) in accordance with this Article.

Section 10.2. ELECTION TO REDEEM; NOTICE TO TRUSTEE . The election of the Company to redeem any Securities shall be evidenced by a Board Resolution. In the case of any redemption at the election of the Company of less than all the Securities of any series of the same tenor, the Company shall, at least 60 days (45 days in the case of redemption of all Securities of any series or of any series with the same (i) Stated Maturity, (ii) period or periods within which, price or prices at which and terms and conditions upon which such Securities may or shall be redeemed or purchased, in whole or in part, at the option of the Company or pursuant to any sinking fund or analogous provision or repayable at the option of the Holder and (iii) rate or rates at which such Securities bear interest, if any, or formula pursuant to which such rate or rates accrue (collectively, the "Equivalent Principal Terms")) prior to the Redemption Date fixed by the Company (unless a shorter notice shall be satisfactory to the Trustee), notify the Trustee of such Redemption Date of the principal amount of Securities of such series to be redeemed and, if applicable, of the tenor of such Securities to be redeemed. In the case of any redemption of Securities of a series (i) prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture or (ii) pursuant to an election of the Company which is subject to a condition specified in the terms of such Securities, the Company shall furnish the Trustee with an Officer's Certificate evidencing compliance with such restriction or condition.

Section 10.3. SELECTION OF SECURITIES TO BE REDEEMED . If less than all the Securities with Equivalent Principal Terms of any series are to be redeemed (unless all of the Securities of such series and of a specified tenor are to be redeemed), the particular Securities to be redeemed shall be selected not more than 60 days prior to the Redemption Date by the Trustee, from the Outstanding Securities of such series not previously called for redemption, by such method as the Trustee shall deem fair and appropriate and which may provide for the selection for redemption of portions (equal to the minimum authorized denomination for Securities of that series with Equivalent Principal Terms or any integral multiple thereof) of the principal amount of Securities of such series with Equivalent Principal Terms of a denomination larger than the minimum authorized denomination for Securities of that series. Unless otherwise provided in the terms of a particular series of Securities, the portions of the principal of Securities so selected for partial redemption shall be equal to the minimum authorized denomination of the Securities of such series, or an integral multiple thereof, and the principal amount which remains outstanding shall not be less than the minimum authorized denomination for Securities of such series.

The Trustee shall promptly notify the Company in writing of the Securities selected for redemption and, in the case of any Securities selected for partial redemption, the principal amount thereof to be redeemed. If the Securities of a series having different issue dates, interest rates and maturities (whether or not originally issued in a Periodic Offering) are to be redeemed, the Company in its discretion may select the particular Securities or portions thereof to be redeemed and shall notify the Trustee thereof by such time prior to the relevant redemption date or dates as the Company and the Trustee may agree.

For purposes of this Indenture, unless the context otherwise requires, all provisions relating to the redemption of Securities shall relate, in the case of any Securities redeemed or to be redeemed only in part, to the portion of the principal amount of such Securities which has been or is to be redeemed.

Section 10.4. NOTICE OF REDEMPTION. Unless otherwise specified as contemplated by Section 3.1, notice of redemption shall be given by first-class mail, postage prepaid, mailed not less than 30 days nor more than 60 days prior to the Redemption Date, unless a shorter period is specified in the Securities to be redeemed, to each Holder of the Securities to be redeemed.

All notices of redemption shall state:

- (1) the Redemption Date;
- (2) the Redemption Price and the amount of accrued interest, if any, to be paid;
- (3) if less than all the Outstanding Securities of a series are to be redeemed, the identification (and, in the case of partial redemption of any Securities, the principal amounts) of the particular Security or Securities to be redeemed;
- (4) in case any Security is to be redeemed in part only, the notice which relates to such Security shall state that on and after the Redemption Date, upon surrender of such Security, the Holder of such Security will receive, without a charge, a new Security or Securities of authorized denominations for the principal amount thereof remaining unredeemed;
- (5) the Place or Places of Payment where such Securities are to be surrendered for payment for the Redemption Price;
- (6) that Securities of the series called for redemption appertaining thereto must be surrendered to the Paying Agent to collect the Redemption Price;
- (7) that, on the Redemption Date, the Redemption Price will become due and payable upon each such Security, or the portion thereof, to be redeemed and, if applicable, that interest thereon will cease to accrue on and after said date;
- (8) that the redemption is for a sinking fund, if such is the case;

(9) the CUSIP number and/or ISIN, if any, of such Securities.

Notice of redemption of Securities to be redeemed at the election of the Company shall be given by the Company or, at the Company's request, by the Trustee in the name and at the expense of the Company (provided that the Company prepare and provide to the Trustee the form of such notice, or, if acceptable to the Trustee, provides sufficient information to enable the Trustee to prepare such notice, in each case on a timely basis.)

Section 10.5. DEPOSIT OF REDEMPTION PRICE . On or prior to any Redemption Date, the Company shall deposit with the Trustee or with a Paying Agent (or, if the Company is acting as its own Paying Agent, segregate and hold in trust as provided in Section 9.3) an amount of money in the currency or currencies (including currency units or composite currencies) in which the Securities of such series are payable (except as otherwise specified pursuant to Section 3.1 for the Securities of such series) sufficient to pay on the Redemption Date the Redemption Price of, and (unless the Redemption Date shall be an Interest Payment Date) interest accrued to the Redemption Date on, all Securities or portions thereof which are to be redeemed on that date.

Unless any Security by its terms prohibits any sinking fund payment obligation from being satisfied by delivering and crediting Securities (including Securities redeemed otherwise than through a sinking fund), the Company may deliver such Securities to the Trustee for crediting against such payment obligation in accordance with the terms of such Securities and this Indenture.

Section 10.6. SECURITIES PAYABLE ON REDEMPTION DATE . Notice of redemption having been given as aforesaid, the Securities so to be redeemed shall, on the Redemption Date, become due and payable at the Redemption Price therein specified, and from and after such date (unless the Company shall default in the payment of the Redemption Price and accrued interest) such Securities shall cease to bear interest and such Securities shall cease from and after the Redemption Date to be entitled to any benefit or security under this Indenture, and the Holders thereof shall have no right in respect of such Securities except the right to receive the Redemption Price thereof and unpaid interest to the Redemption Date. Except as provided in the next succeeding paragraph, upon surrender of any such Security for redemption in accordance with said notice, such Security shall be paid by the Company at the Redemption Price, together with accrued interest, if any, to the Redemption Date; provided, however, that, unless otherwise specified as contemplated by Section 3.1, installments of interest on Registered Securities whose Stated Maturity is on or prior to the Redemption Date shall be payable to the Holders of such Securities, or one or more Predecessor Securities, registered as such at the close of business on the relevant Record Dates according to their terms and the provisions of Section 3.7.

If any Security called for redemption shall not be so paid upon surrender thereof for redemption, the principal (and premium, if any) shall, until paid, bear interest from the Redemption Date at the rate prescribed therefor in such Security.

Section 10.7. SECURITIES REDEEMED IN PART . Upon surrender of a Security that is redeemed only in part at any Place of Payment therefor (with, if the Company or the Trustee so require, due endorsement by, or a written instrument of transfer in form satisfactory to the Company and the Trustee duly executed by, the Holder thereof or his attorney duly authorized in writing), the Company shall execute and the Trustee shall authenticate and deliver to the Holder of that Security, without service charge, a new Security or Securities of the same series, having the same form, terms and Stated Maturity, in any authorized denomination equal in aggregate principal amount to the unredeemed portion of the principal amount of the Security surrendered.

## **ARTICLE XI SINKING FUNDS**

Section 11.1. APPLICABILITY OF ARTICLE. The provisions of this Article shall be applicable to any sinking fund for the retirement of Securities of a series except as otherwise specified as contemplated by Section 3.1 for Securities of such series.

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a "mandatory sinking fund payment," and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an "optional sinking fund payment." If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 11.2. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

Section 11.2. SATISFACTION OF SINKING FUND PAYMENTS WITH SECURITIES . The Company (i) may deliver Outstanding Securities of a series (other than any previously called for redemption) and (ii) may apply as a credit Securities of a series which have been redeemed either at the election of the Company pursuant to the terms of such Securities or through the application of permitted optional sinking fund payments pursuant to the terms of such Securities, in each case in satisfaction of all or any part of any sinking fund payment with respect to the Securities of such series required to be made pursuant to the terms of such Securities as provided for by the terms of such series; provided that such Securities have not been previously so credited. Such Securities shall be received and credited for such purpose by the Trustee at the Redemption Price specified in such Securities for redemption through operation of the sinking fund and the amount of such sinking fund payment shall be reduced accordingly.

Section 11.3. REDEMPTION OF SECURITIES FOR SINKING FUND . Not less than 60 days prior to each sinking fund payment date for any series of Securities, the Company will deliver to the Trustee an Officer's Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of that series, the portion thereof, if any, which is to be satisfied by payment of cash and the portion thereof, if any, which is to be satisfied by delivering and crediting Securities of that series pursuant to Section 11.2 and will also deliver to the Trustee any Securities to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 10.3 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 10.4. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Sections 10.6 and 10.7.

This Indenture may be executed in any number of counterparts, each of which shall be an original, but such counterparts shall together constitute but one instrument.

**ENDRA LIFE SCIENCES INC.**

*By:*

Name: \_\_\_\_\_

Title:

**[●], as Trustee**

*By:*

Name: \_\_\_\_\_

Title:

December 28, 2018

ENDRA Life Sciences Inc.  
3600 Green Court, Suite 350  
Ann Arbor, MI 48105

Ladies and Gentlemen:

We have acted as special counsel to ENDRA Life Sciences Inc., a Delaware corporation (the "Company"), in connection with the Registration Statement on Form S-3 (the "Registration Statement") filed on the date hereof by the Company with the Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "Securities Act"). The Registration Statement relates to, among other things, the issuance and sale from time to time pursuant to Rule 415 promulgated under the Securities Act of the following securities:

- (i) common stock, par value \$0.0001 per share, of the Company (the "Common Stock");
- (ii) preferred stock, par value \$0.0001 per share, of the Company (the "Preferred Stock");
- (iii) debt securities of the Company (the "Debt Securities");
- (iv) warrants to purchase Common Stock, Preferred Stock or Debt Securities (the "Warrants"); and
- (v) units composed of any combination of Common Stock, Preferred Stock, Debt Securities or Warrants (the "Units").

The Common Stock, Preferred Stock, Debt Securities, Warrants and Units are collectively referred to herein as the "Securities." The maximum public offering price of the Securities being registered is \$20,000,000.

This opinion letter is being delivered in accordance with the requirements of Paragraph 29 of Schedule A of the Securities Act and Item 601(b)(5)(i) of Regulation S-K.

In connection with rendering the opinions set forth below, we have examined: (i) the Registration Statement, including the exhibits filed therewith; (ii) the prospectus included in the Registration Statement to which this opinion is attached as Exhibit 5; (iii) the Company's Fourth Amended and Restated Certificate of Incorporation, as amended (the "Charter"); (iv) the Company's Amended and Restated Bylaws (the "Bylaws"); (v) resolutions adopted by the Board of Directors of the Company (the "Board of Directors") on December 26, 2018 relating to the Registration Statement; (vi) the Company's stock ledger; and (vii) the form of the Indenture filed as Exhibit 4.8 to the Registration Statement. We have also examined certificates of public officials and have considered such matters of law as we have deemed necessary to render the opinions contained herein. With respect to certain facts, we have considered it appropriate to rely upon certificates or other comparable documents of public officials and officers or other appropriate representatives of the Company without investigation or analysis of any underlying data contained therein.

For the purposes of this opinion letter, we have assumed that: (i) each document submitted to us is accurate and complete; (ii) each such document that is an original is authentic; (iii) each such document that is a copy conforms to an authentic original; and (iv) all signatures (other than signatures on behalf of the Company) on each such document are genuine. We have further assumed the legal capacity of natural persons, and we have assumed that (i) each party (other than the Company to the extent expressly set forth below) to the documents we have examined or relied on (the "Reviewed Documents") is duly organized, validly existing and in good standing under the laws of its jurisdiction of organization; (ii) each party to the Reviewed Documents (other than the Company to the extent expressly set forth below): (a) has the legal capacity, power and authority to execute, deliver, and perform its obligations under the Reviewed Documents to which it is a party, (b) has taken all action necessary to duly authorize the execution and delivery of, and the performance of its obligations under, the Reviewed Documents and (c) has duly executed and delivered the Reviewed Documents; and (iii) the Reviewed Documents constitute the legal, valid, and binding obligation of each party thereto, enforceable against each such party in accordance with its terms. We have not verified any of the foregoing assumptions.

Our opinions set forth below are limited to: (i) the federal laws of the United States; (ii) solely in connection with the opinions given in numbered paragraphs 1, 2 and 6(a) below, the General Corporation Law of the State of Delaware (the "DGCL"); and (iii) solely in connection with the opinions given in numbered paragraphs 3, 4, 5 and 6(b) below, the law of the State of New York. We are not opining on, and we assume no responsibility for, the applicability to or effect on any of the matters covered herein of (i) any other laws; (ii) the laws of any other jurisdiction; or (iii) the law of any county, municipality or other political subdivision or local governmental agency or authority.

Based on and subject to the foregoing, and assuming that (i) the Registration Statement and any required post-effective amendment thereto will be effective and will comply with all applicable laws at the time the relevant Securities are offered or issued as contemplated by the Registration Statement or any such post-effective amendment; (ii) a prospectus supplement will have been prepared and filed with the SEC describing the Securities offered thereby and will comply with all applicable laws; (iii) all Securities will be issued and sold in compliance with applicable federal and state securities laws and in the manner stated in the Registration Statement and the applicable prospectus supplement; (iv) the Board of Directors, and/or any duly authorized committee thereof, shall not have rescinded or otherwise modified its authorization of any such issuance of Securities or the establishment of the terms of any series of such Securities or any related matters; (v) the Company shall remain at all times a corporation duly incorporated, validly existing and in good standing under the laws of the State of Delaware; and (vi) the additional qualifications and other matters set forth below, it is our opinion that:

1. When (i) the terms of an issuance and sale of Common Stock have been duly authorized and approved by all necessary action of (A) the Board of Directors, and/or or a duly authorized committee thereof, and (B) the Company's stockholders, so as not to violate any applicable law, rule or regulation, including, without limitation, the DGCL or result in a default under or a breach of any agreement or instrument binding upon the Company, including, without limitation, the Charter, as it may be amended from time to time, hereafter and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company; (ii) certificates representing the shares of the Common Stock have been duly executed, issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with any agreement or instrument binding upon the Company and the DGCL, and (iii) notation of the issuance of the shares of Common Stock has been properly made in the Company's stock ledger, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement which is enforceable against all parties thereto in accordance with its terms and in an amount at least equal to the aggregate par value of the shares of Common Stock being issued and duly authorized by the Board of Directors, and/or or a duly authorized committee thereof, the Common Stock will be validly issued, fully paid and nonassessable.
2. Assuming the terms of such Preferred Stock have been duly established so as not to violate any applicable law, rule or regulation, including, without limitation, the DGCL, or result in a default under or breach of any agreement or instrument binding upon the Company, including, without limitation, the Charter, as it may be amended from time to time, hereafter and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, when (i) the powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock have been duly established in conformity with the Charter, as it may be amended from time to time hereafter, and such powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock and the issuance and sale thereof have been duly authorized and approved by all necessary action of the Board of Directors, and/or a duly authorized committee thereof; (ii) an amendment to, including without limitation a Certificate of Designation (as defined in the Charter), or restatement of, the Charter, as then in effect, fixing and determining the powers, rights, preferences, and qualifications, limitations or restrictions of the Preferred Stock has been duly authorized by the Board of Directors and stockholders, if applicable, and filed with the Secretary of State of the State of Delaware and become effective; (iii) certificates representing the shares of the Preferred Stock have been duly executed, issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with any agreement or instrument binding upon the Company and the DGCL, and (iv) notation of the issuance of the shares of Preferred Stock has been properly made in the Company's stock ledger, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement which is enforceable against the parties thereto in accordance with its terms and in an amount at least equal to the aggregate par value of the shares of Preferred Stock being issued and approved by the Board of Directors, and/or a duly authorized committee thereof, the Preferred Stock will be validly issued, fully paid and nonassessable.
3. Assuming the terms of such Debt Securities have been duly established in accordance with the indenture pursuant to which the Debt Securities are to be issued, which is substantially in the form of the Indenture filed as Exhibit 4.8 to the Registration Statement (together with any applicable supplement thereto, the "Indenture"), and so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, when (i) the terms and the execution and delivery of the Indenture and the Debt Securities, and the issuance and sale of the Debt Securities, have been duly authorized and approved by all necessary action of the Board of Directors, and/or a duly authorized committee thereof; (ii) the Indenture has been duly executed and delivered by the Company and the trustee to be named in the prospectus supplement relating to the offering of the Debt Securities (the "Debt Trustee") and constitutes the legally valid and binding obligation of the Debt Trustee; (iii) the Debt Trustee is eligible under the Trust Indenture Act of 1939, as amended, to act in such capacity under the Indenture and has been duly appointed and a Statement of Eligibility of Trustee on Form T-1 has been filed in compliance with the Securities Act and the rules and regulations promulgated thereunder; and (iv) the Debt Securities have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the Indenture and any other agreement or instrument binding upon the Company and enforceable against the parties thereto, upon payment of the consideration fixed therefor in accordance with the applicable definitive purchase, underwriting or similar agreement duly authorized by the Board of Directors and enforceable against the parties thereto in accordance with its terms, the Debt Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).
4. Assuming the form and terms of such Warrants have been duly established in accordance with the applicable warrant agreement pursuant to which the Warrants are to be issued (the "Warrant Agreement") so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and assuming that the Warrants and the Warrant Agreement are governed by the laws of New York, when (i) the form, terms and the execution and delivery of the Warrant Agreement relating to any Warrants and the terms of the Warrants, and of their issuance and sale, have been duly authorized and approved by all necessary action of the Board of Directors, and/or a duly authorized committee thereof; (ii) the Warrant Agreement relating to the Warrants has been duly executed and delivered by the Company and is enforceable against the parties thereto in accordance with its terms; and (iii) the Warrants or certificates representing the Warrants, as the case may be, have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the applicable Warrant Agreement and any other agreement or instrument binding upon the Company and enforceable against the parties thereto in accordance with its terms, upon payment of the consideration fixed therefor in accordance with the applicable Warrant Agreement and the applicable definitive purchase, underwriting or similar agreement duly authorized by the Board of Directors, and/or a duly authorized committee thereof and enforceable against the parties thereto in accordance with its terms, the Warrants will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

5. Assuming that (A) the combination of the Securities of which such Units consist has been duly authorized and approved by all necessary action of the Board of Directors, and/or a duly authorized committee thereof and of the stockholders, if applicable, and (B) the terms of such Units have been duly established in accordance with the applicable agreement pursuant to which such Units are to be issued (the "Unit Agreement") so as not to violate any applicable law, rule or regulation or result in a default under or breach of any agreement or instrument binding upon the Company and so as to comply with any applicable requirement or restriction imposed by any court or governmental body having jurisdiction over the Company, and assuming that the Units and the Units Agreement are governed by the laws of New York, when (i) the form, terms and the execution and delivery of the Unit Agreement relating to any Units and the terms of the Units, and of their issuance and sale, have been duly authorized and approved by all necessary action of the Board of Directors, and/or a duly authorized committee thereof; (ii) the Unit Agreement relating to the Units has been duly executed and delivered by the Company and is enforceable against the parties thereto in accordance with its terms; and (iii) the Units or certificates representing the Units, as the case may be, have been duly executed, authenticated (if required), issued and delivered as contemplated by the Registration Statement and any prospectus supplement relating thereto and in accordance with the terms of the applicable Unit Agreement and any other agreement or instrument binding upon the Company and enforceable against the parties thereto in accordance with its terms, upon payment of the consideration fixed therefor in accordance with the applicable Unit Agreement and the applicable purchase, underwriting or similar agreement duly authorized by the Board of Directors, and/or a duly authorized committee thereof, and enforceable against the parties thereto in accordance with its terms, the Units will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

6. If any Securities are issuable (the "Issuable Securities") upon settlement, exercise, conversion or exchange of any other Securities (the "Initial Securities") pursuant to the terms thereof, when (i) the terms of the issuance of the Issuable Securities have been duly authorized, approved and documented as provided in numbered paragraphs 1 through 5 above, as the case may be and assuming that the Issuable Securities (other than the Common Stock and Preferred Stock) are governed by the laws of New York; and (ii) the Issuable Securities have been issued upon settlement, exercise, conversion or exchange, as the case may be, of Initial Securities as contemplated by the Registration Statement and any prospectus supplement relating thereto, in accordance with the terms of the applicable Initial Securities, the Issuable Securities and any agreement or instrument binding upon the Company, and so as not to violate any applicable law, rule or regulation or result in a default under or a violation of any agreement or instrument binding upon the Company, and so as to comply with any applicable requirement or restriction imposed by any court or governmental authority having jurisdiction over the Company, upon such issuance, (a) to the extent the relevant Issuable Securities are Common Stock or Preferred Stock, such Issuable Securities will be validly issued, fully paid and nonassessable and (b) to the extent the relevant Issuable Securities are Debt Securities, Warrants or Units, such Issuable Securities will constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms (subject to the effect of bankruptcy, insolvency, fraudulent transfer, reorganization, receivership, moratorium and other laws affecting the rights and remedies of creditors or secured parties generally, and to the exercise of judicial discretion in accordance with general principles of equity, whether applied by a court of law or equity).

We note that the maximum number of shares of Common Stock and Preferred Stock issuable under the Registration Statement is not specified, and we assume that, at the time of the issuance of any share of Common Stock or Preferred Stock under the Registration Statement or upon the settlement, exercise, conversion or exchange of any other Securities, the Company will have sufficient authorized and unissued, not otherwise committed to be issued, shares of Common Stock or Preferred Stock, as the case may be, to provide for such issuance.

We hereby consent to the filing of this opinion letter with the SEC as Exhibit 5.1 to the Registration Statement and to the reference to this firm under the heading "Legal Matters" in the Prospectus forming a part thereof. In giving this consent, we do not thereby admit that we are experts with respect to any part of the Registration Statement or Prospectus within the meaning of the term "expert" as used in Section 11 of the Securities Act or the rules and regulations promulgated thereunder by the SEC, nor do we admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the SEC promulgated thereunder.

Very truly yours,

/s/ K&L Gates LLP

K&L Gates LLP

**INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT**

We consent to the incorporation by reference in this Registration Statement of ENDRA Life Sciences Inc. (the "Company") on Form S-3 of our report, which includes an explanatory paragraph regarding the substantial doubt about the Company's ability to continue as a going concern, dated March 20, 2018, relating to the consolidated financial statements of ENDRA Life Sciences Inc. and subsidiary, appearing in the Annual Report on Form 10-K of ENDRA Life Sciences Inc. and subsidiary for the year ended December 31, 2017. We also consent to the reference to our firm under the heading "Experts" in such Prospectus.

/s/ RBSM LLP

RBSM LLP  
Henderson, NV  
December 28, 2018

---