

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

FORM F-3

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

APTORUM GROUP LIMITED
(Exact name of registrant as specified in its charter)

<p style="text-align: center;">Cayman Islands (State or other jurisdiction of incorporation or organization)</p>	<p style="text-align: center;">N/A (I.R.S. Employer Identification Number)</p>
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17th Floor, Guangdong Investment Tower
148 Connaught Road Central
Hong Kong
+852 2117 6611
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Ian Huen
Chief Executive Officer and Executive Director
17th Floor, Guangdong Investment Tower
148 Connaught Road Central
Hong Kong
+852 2117 6611
(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:
Louis Taubman, Esq.
Hunter Taubman Fischer & Li LLC
1450 Broadway, 26th Floor
New York, NY 10018
Tel: 917.512.0827
Fax: 212.202.6380

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

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

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

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

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

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

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933.

Emerging growth company

If an emerging growth company that prepares its financial statements in accordance with U.S. GAAP, 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.

[†]The term "new or revised financial accounting standard" refers to any update issued by the Financial Accounting Standards Board to its Accounting Standards Codification after April 5, 2012.

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered (1)	Amount to be Registered (2)	Proposed Maximum Aggregate Price Per Share (3)	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Class A Ordinary Shares, par value \$1.00 per share	-	-	-	
Preferred Shares	-	-	-	
Warrants(4)	-	-	-	
Units(5)	-	-	-	
Debt Securities	-	-	-	
Total(6)			<u>\$ 100,000,000</u>	<u>\$ 12,980(7)</u>

- (1) Securities registered hereunder may be sold separately, together or as units with other securities registered hereunder.
- (2) We are registering an indeterminate number of Class A Ordinary Shares, par value \$1.00 per share (“Class A Ordinary Shares”), preferred shares, warrants to purchase Class A Ordinary Shares and/or preferred shares and/or units, each of which may be offered from time to time at prices to be determined at the time of any such offering. The aggregate offering price of these securities will not exceed \$100,000,000. Any securities registered hereunder may be sold separately from, or together in the same offering with, other securities registered hereunder. In addition, pursuant to Rule 416 under the Securities Act, the shares being registered hereunder include such indeterminate number of Class A Ordinary Shares and preferred shares as may be issuable with respect to the shares being registered hereunder as a result of stock splits, stock dividends or similar transactions.
- (3) The proposed maximum aggregate offering price per class of security will be determined from time to time by the Registrant in connection with the issuance by the Registrant of the securities registered hereunder and is not specified as to each class of security in reliance on Rule 457(o) under the Securities Act of 1933.
- (4) Warrants may represent rights to purchase debt securities, Class A Ordinary Shares, or other securities registered hereunder.
- (5) Consisting of some or all of the securities listed above, in any combination, including Class A Ordinary shares, preferred shares, warrants and units.
- (6) Calculated pursuant to Rule 457(o) under the Securities act of 1933, as amended.
- (7) Previously paid.

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 that specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until this registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

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

SUBJECT TO COMPLETION, DATED JANUARY 6, 2020

PROSPECTUS APTORUM GROUP LIMITED
\$100,000,000
Class A Ordinary Shares, Preferred Shares,
Warrants, Units and Debt Securities

We may, from time to time in one or more offerings, offer and sell up to \$100,000,000 in the aggregate of Class A Ordinary Shares, preferred shares, warrants to purchase Class A Ordinary Shares or preferred shares, debt securities or any combination of the foregoing, either individually or as units comprised of one or more of the other securities. The prospectus supplement for each offering of securities will describe in detail the plan of distribution for that offering. For general information about the distribution of securities offered, please see “Plan of Distribution” in this prospectus.

This prospectus provides a general description of the securities we may offer. We will provide the specific terms of the securities offered in one or more supplements to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may add, update or change information contained in this prospectus. You should read carefully this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as the documents incorporated or deemed to be incorporated by reference, before you invest in any of our securities. **This prospectus may not be used to offer or sell any securities unless accompanied by the applicable prospectus supplement.**

Pursuant to General Instruction I.B.5. of Form F-3, in no event will we sell the securities covered hereby in a public primary offering with a value exceeding more than one-third of the aggregate market value of our Ordinary Shares in any 12-month period so long as the aggregate market value of our outstanding Ordinary Shares held by non-affiliates remains below \$75,000,000. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.5 of Form F-3.

Our Class A Ordinary Shares are listed on the Nasdaq Global Market under the symbol “APM.” On January 3, 2020, the last reported sale price of our Class A Ordinary Shares on the Nasdaq Global Market was \$14.73 per share. The applicable prospectus supplement will contain information, where applicable, as to other listings, if any, on the Nasdaq Global Market or other securities exchange of the securities covered by the prospectus supplement.

Investing in our securities involves a high degree of risk. See “Risk Factors” on page 5 of this prospectus and in the documents incorporated by reference in this prospectus, as updated in the applicable prospectus supplement, any related free writing prospectus and other future filings we make with the Securities and Exchange Commission that are incorporated by reference into this prospectus, for a discussion of the factors you should consider carefully before deciding to purchase our securities.

We may sell these securities directly to investors, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable commissions or discounts will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

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

The date of this prospectus is January 6, 2020.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, under the Securities Act of 1933, as amended, or the Securities Act, using a “shelf” registration process. Under this shelf registration process, we may from time to time sell Class A Ordinary Shares, preferred shares, warrants to purchase Class A Ordinary Shares or preferred shares, debt securities or any combination of the foregoing, either individually or as units comprised of one or more of the other securities, in one or more offerings up to a total dollar amount of \$100,000,000. We have provided to you in this prospectus a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will, to the extent required by law, provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement or any related free writing prospectus, you should rely on the information in the prospectus supplement or the related free writing prospectus; provided that if any statement in one of these documents is inconsistent with a statement in another document having a later date – for example, a document filed after the date of this prospectus and incorporated by reference into this prospectus or any prospectus supplement or any related free writing prospectus – the statement in the document having the later date modifies or supersedes the earlier statement.

We have not authorized any dealer, agent or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus and any accompanying prospectus supplement, or any related free writing prospectus that we may authorize to be provided to you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus or an accompanying prospectus supplement, or any related free writing prospectus that we may authorize to be provided to you. This prospectus and the accompanying prospectus supplement, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus and the accompanying prospectus supplement constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference is correct on any date subsequent to the date of the document incorporated by reference (as our business, financial condition, results of operations and prospects may have changed since that date), even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered or securities are sold on a later date.

As permitted by SEC rules and regulations, the registration statement of which this prospectus forms a part includes additional information not contained in this prospectus. You may read the registration statement and the other reports we file with the SEC at its website or at its offices described below under “Where You Can Find More Information.”

Unless the context otherwise requires, all references in this prospectus to “Aptorum,” “we,” “us,” “our,” “the Company” or similar words refer to Aptorum Group Limited, together with our subsidiaries.

COMMONLY USED DEFINED TERMS

- “AML” refers to Aptorum Medical Limited, a 94% owned subsidiary of Aptorum Group.
- “AML Clinic” refers to an outpatient medical clinic operated by AML under the name of Talem Medical.
- “APD” refers to Aptorum Pharmaceutical Development Limited, a wholly-owned subsidiary of Aptorum Group.
- “Aptorum Group,” “Company,” “we,” and “us” refer to Aptorum Group Limited, a Cayman Islands exempted company with limited liability whose principal place of business is in Hong Kong, and all of its subsidiaries.

- “cGCP” refers to Current Good Clinical Practice as adopted by the applicable regulatory authority.
- “cGMP” refers to Current Good Manufacturing Practice as adopted by the applicable regulatory authority.
- “Class A Ordinary Shares,” refers to the Company’s Class A Ordinary Shares, par value \$1.00 per share.
- “Class B Ordinary Shares” refers to the Company’s Class B Ordinary Shares, par value \$1.00 per share.
- “CROs” refers to contract research organizations.
- “EMA” refers to the European Medicines Agency.
- “EPO” refers to the European Patent Organization or the European Patent Office operated by it, which issues European patents.
- “Exchange Act” refers to the U.S. Securities Exchange Act of 1934, as amended.
- “FDA” refers to U.S. Food and Drug Administration.
- “Hong Kong” or “H.K.” refers to Hong Kong Special Administrative Region of the People’s Republic of China.
- “IND” refers to Investigational New Drugs.
- “IP” refers to intellectual property.
- “IPO” means the initial public offering by the Company of 761,419 Class A Ordinary Shares consummated on December 17, 2018.
- “Jurchen” refers to Jurchen Investment Corporation, a company wholly-owned by our CEO, Ian Huen, and a holding company of Aptorum Group.
- “Lead Projects” refers to three of the Company’s therapeutic projects ALS-1, ALS-4 and NLS-1.
- “Major Patent Jurisdictions” refers to the United States, member states of the EPO and the People’s Republic of China.
- “NMPA” refers to China’s National Medical Products Administration and its predecessor, the China Food and Drug Administration.

- “NDA” refers to a New Drug Application issued by the FDA.
- “Ordinary Shares” refers to the Class A Ordinary Shares and Class B Ordinary Shares collectively.
- “PRC” and “China” refer to the People’s Republic of China.
- “Restructure” refers to the Company’s change from an investment fund with management shares and non-voting participating redeemable preference shares to a holding company with operating subsidiaries, effective as of March 1, 2017.
- “R&D” refers to research and development.
- “R&D Center” refers to an in-house pharmaceutical development center operated by APD.
- “Securities Exchange Commission,” “SEC,” “Commission” or similar terms refer to the Securities Exchange Commission.
- “Sarbanes-Oxley Act” refers to the Sarbanes-Oxley Act of 2002.
- “Securities Act” refers to the U.S. Securities Act of 1933, as amended.
- “United States,” “U.S.” and “US” refer to the United States of America.
- “\$,” “U.S. \$,” “U.S. dollars,” “dollars,” “US\$” and “USD” refer to the United States dollars.

NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and our SEC filings that are incorporated by reference into this prospectus contain or incorporate by reference forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. All statements other than statements of historical fact are “forward-looking statements,” including any projections of earnings, revenue or other financial items, any statements of the plans, strategies and objectives of management for future operations, any statements concerning proposed new projects or other developments, any statements regarding future economic conditions or performance, any statements of management’s beliefs, goals, strategies, intentions and objectives, and any statements of assumptions underlying any of the foregoing. The words “believe,” “anticipate,” “estimate,” “plan,” “expect,” “intend,” “may,” “could,” “should,” “potential,” “likely,” “projects,” “continue,” “will,” and “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements reflect our current views with respect to future events, are based on assumptions and are subject to risks and uncertainties. We cannot guarantee that we actually will achieve the plans, intentions or expectations expressed in our forward-looking statements and you should not place undue reliance on these statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. These important factors include those discussed under the heading “Risk Factors” contained or incorporated by reference in this prospectus and in the applicable prospectus supplement and any free writing prospectus we may authorize for use in connection with a specific offering. These factors and the other cautionary statements made in this prospectus should be read as being applicable to all related forward-looking statements whenever they appear in this prospectus. Except as required by law, we undertake no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

OUR BUSINESS

We are a pharmaceutical company dedicated to developing and commercializing a broad range of therapeutic and diagnostic technologies to tackle unmet medical needs. We have obtained exclusive licenses for our technologies. In addition, we are also developing certain proprietary technologies as product candidates. We are pursuing therapeutic and diagnostic projects (including projects seeking to use extracts or derivatives from natural substances to treat diseases) in neurology, infectious diseases, gastroenterology, oncology and other disease areas. We also have projects focused on surgical robotics. Also, we opened a medical clinic, AML Clinic, in June 2018.

Our goal is to develop a broad range of novel therapeutics and diagnostics across a wide range of disease/therapeutic areas. Key components of our strategy for achieving this goal include:

- Developing therapeutic and diagnostic innovations across a wide range of disease/therapeutic areas;
- Selectively expanding our portfolio with potential products that may be able to attain orphan drug designation and/or satisfy current unmet medical needs;
- Collaborating with leading academic institutions and CROs;
- Expanding our in-house pharmaceutical development center;
- Leveraging our management's expertise, experience and commercial networks; and
- Obtaining and leveraging government grants to fund project development.

We have devoted a portion of the proceeds from our IPO to three therapeutic projects ("Lead Projects"). The drug candidates being advanced as the Lead Projects are ALS-1, ALS-4 and NLS-1, described in further detail in our most recent annual report on Form 20-F, initially filed on April 15, 2019 and as amended on April 22, 2019, as supplemented and updated by subsequent current reports on Form 6-K that we have filed with the SEC. If the results of the remaining preclinical studies of these drug candidates are positive, we expect to be able to submit by 2020 or 2021 an Investigational New Drug Application for at least one of these candidates to the U.S. Food and Drug Administration or an equivalent application to the regulatory authorities in one or more other jurisdictions such as the China's National Medical Products Administration and/or the European Medicines Agency. Acceptance of these applications by the relevant regulatory authority would enable the Company to begin testing that drug candidate in humans in that jurisdiction. Our ability to obtain any approval of such applications is entirely dependent upon the results of our preclinical studies, none of which have yet been completed.

Our current business consists of "therapeutics" and "non-therapeutics" segments. However, our focus is on the therapeutics segments. Because of the risks, costs and extended development time required for successful drug development, we have determined to pursue projects within our non-therapeutics segments, such as AML Clinic, to provide some interim revenue and medical robots that may be brought to market and generate revenue more quickly.

Corporate Information

Our principal executive office is located on the 17th Floor, Guangdong Investment Tower, 148 Connaught Road Central, Hong Kong. Our telephone number is +852 2117 6611.

We make available free of charge through our website our annual report on Form 20-F, current reports on Form 6-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The information contained in, or that can be accessed through, our website is not part of this prospectus or any prospectus supplement.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risk factors set forth under “Risk Factors” described in our most recent annual report on Form 20-F, initially filed on April 15, 2019 and as amended on April 22, 2019, as supplemented and updated by subsequent current reports on Form 6-K that we have filed with the SEC, together with all other information contained or incorporated by reference in this prospectus and any applicable prospectus supplement and in any related free writing prospectus in connection with a specific offering, before making an investment decision. Each of the risk factors could materially and adversely affect our business, operating results, financial condition and prospects, as well as the value of an investment in our securities, and the occurrence of any of these risks might cause you to lose all or part of your investment.

In addition to the risk factors referenced above, as described in our most recent annual report on Form 20-F, we want to disclose the additional risk factors below.

Political risks associated with conducting business in Hong Kong.

While we operate our business globally, our business operations are principally based in Hong Kong. Accordingly, our business operation and financial conditions will be affected by the political and legal developments in Hong Kong. During the period covered by the financial information incorporated by reference into and included in this prospectus, we derive substantially all of our revenue from operations in Hong Kong and, specifically, from the AML Clinic in Hong Kong operating under the name of Talem Medical. Any adverse economic, social and/or political conditions, material social unrest, strike, riot, civil disturbance or disobedience, as well as significant natural disasters, may affect the market may adversely affect the business operations of the AML Clinic. Hong Kong is a special administrative region of the PRC and the basic policies of the PRC regarding Hong Kong are reflected in the Basic Law, namely, Hong Kong’s constitutional document, which provides Hong Kong with a high degree of autonomy and executive, legislative and independent judicial powers, including that of final adjudication under the principle of “one country, two systems”. However, there is no assurance that there will not be any changes in the economic, political and legal environment in Hong Kong in the future. Since a substantial part of our operations is based in Hong Kong, any change of such political arrangements may pose immediate threat to the stability of the economy in Hong Kong, thereby directly and adversely affecting our results of operations and financial positions.

Therefore, our revenue is susceptible to any incidents or factors which affect the stability of the social, economic and political conditions in Hong Kong. Any drastic events may adversely affect our business operations. Such adverse events may include changes in economic conditions and regulatory environment, social and/or political conditions, civil disturbance or disobedience, as well as significant natural disasters. Given the relatively small geographical size of Hong Kong, any of such incidents may have a widespread effect on our business operations, which could in turn adversely and materially affect our business, results of operations and financial condition.

We cannot assure that there will be no political or social unrest in the near future or that there will not be other events that could lead to the disruption of the economic, political and social conditions in Hong Kong. If such events persist for a prolonged period of time or that the economic, political and social conditions in Hong Kong are to be disrupted, our overall business and results of operations may be adversely affected.

We are subject to the risks of doing business globally.

Because we operate our business in Hong Kong and other countries, our business is subject to risks associated with doing business globally. Accordingly, our business and financial results in the future could be adversely affected due to a variety of factors, including: changes in a specific country's or region's political and cultural climate or economic condition; unexpected changes in laws and regulatory requirements in local jurisdictions; difficulty of effective enforcement of contractual provisions in local jurisdictions; inadequate intellectual property protection in certain countries; enforcement of anti-corruption and anti-bribery laws; trade-protection measures, import or export licensing requirements and fines, penalties or suspension or revocation of export privileges; the effects of applicable local tax regimes and potentially adverse tax consequences; and significant adverse changes in local currency exchange rates.

USE OF PROCEEDS

Except as described in any prospectus supplement and any free writing prospectus in connection with a specific offering, we currently intend to use the net proceeds from the sale of the securities offered under this prospectus to fund the development and commercialization of our projects and the growth of our business, primarily working capital, and for general corporate purposes. We may also use a portion of the net proceeds to acquire or invest in technologies, products and/or businesses that we believe will enhance the value of our Company, although we have no current commitments or agreements with respect to any such transactions as of the date of this prospectus. We have not determined the amount of net proceeds to be used specifically for the foregoing purposes. As a result, our management will have broad discretion in the allocation of the net proceeds and investors will be relying on the judgment of our management regarding the application of the proceeds of any sale of the securities. If a material part of the net proceeds is to be used to repay indebtedness, we will set forth the interest rate and maturity of such indebtedness in a prospectus supplement. Pending use of the net proceeds will be deposited in interest bearing bank accounts.

DILUTION

If required, we will set forth in a prospectus supplement the following information regarding any material dilution of the equity interests of investors purchasing securities in an offering under this prospectus:

- the net tangible book value per share of our equity securities before and after the offering;
- the amount of the increase in such net tangible book value per share attributable to the cash payments made by purchasers in the offering; and
- the amount of the immediate dilution from the public offering price which will be absorbed by such purchasers.

DESCRIPTION OF SHARE CAPITAL

Ordinary Shares

The following description of our Ordinary Shares, together with any additional information we include in any applicable prospectus supplement or any related free writing prospectus, summarizes the material terms and provisions of our Class A Ordinary Shares that we may offer under this prospectus, as well as the material terms and provisions of our Class B Ordinary Shares although we are not offering any such shares under this prospectus. While the terms we have summarized below will apply generally to any future Class A Ordinary Shares that we may offer, we will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement. For the complete terms of our Ordinary Shares, please refer to our Second Amended and Restated Memorandum and Articles of Association, which is incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any applicable prospectus supplement. The terms of these securities may also be affected by Cayman Islands law. The summary below and that contained in any applicable prospectus supplement or any related free writing prospectus are qualified in their entirety by reference to our Second Amended and Restated Memorandum and Articles of Association, as in effect at the time of any offering of securities under this prospectus. For information on how to obtain copies of our Second Amended and Restated Memorandum and Articles of Association, see "Where You Can Find More Information."

As of the date hereof, the authorized share capital of the Company is \$100,000,000, consisting of 60,000,000 Class A Ordinary Shares, par value \$1.00 each and 40,000,000 Class B Ordinary Shares, par value \$1.00 each. As of the date hereof, 6,597,362 Class A Ordinary Shares and 22,437,754 Class B Ordinary Shares are issued and outstanding. All of our issued and outstanding Class A Ordinary Shares and Class B Ordinary Shares are fully paid.

Our authorized share capital is divided into Class A Ordinary Shares and Class B Ordinary Shares. Holders of our Class A Ordinary Shares and Class B Ordinary Shares will have the same rights except for voting rights and conversion rights.

The holders of Class A Ordinary Shares are entitled to one vote for each such share held and shall be entitled to notice of any shareholders' meeting, and, subject to the terms of Second Amended and Restated Memorandum and Articles, to vote thereat. The Class A Ordinary Shares are not redeemable at the option of the holder and are not convertible into shares of any other class.

The holders of Class B Ordinary Shares shall have the right to ten votes for each such share held, and shall be entitled to notice of any shareholders' meeting and, subject to the terms of the Second Amended and Restated Memorandum and Articles, to vote thereat. The Class B Ordinary Shares are not redeemable at the option of the holder but are convertible into Class A Ordinary Shares at any time after issue at the option of the holder on a one to one basis.

Dividends

The holders of our Class A Ordinary Shares and Class B Ordinary Shares are entitled to such dividends as may be declared by our Board of Directors subject to the Companies Law and to our Memorandum and Articles.

Voting Rights

In respect of all matters subject to a shareholders' vote, each Class B Ordinary Share is entitled to ten votes, and each Class A Ordinary Share is entitled to one vote, voting together as one class. Voting at any shareholders' meeting is by show of hands unless a poll is demanded by the chairman or persons holding certain amounts of shares as set forth in the Memorandum and Articles. Actions that may be taken at a general meeting also may be taken by a unanimous resolution of the shareholders in writing.

No business shall be transacted at any general meeting unless a quorum of members is present at the time when the meeting proceeds to business; two members present in person or by proxy, one of whom shall be the holder of the majority of the shares in the Company, shall be a quorum provided always that if the Company has one member of record the quorum shall be that one member present in person or by proxy. An ordinary resolution to be passed at a general meeting requires the affirmative vote of a simple majority of the votes cast, while a special resolution requires the affirmative vote of at least two-thirds of votes cast at a general meeting. A special resolution will be required for important matters.

A special resolution of members is required to change the name of the Company, approve a merger, wind up the Company, amend the Memorandum and Articles and reduce the share capital.

Conversion

Class A Ordinary Shares are not convertible. Each Class B Ordinary Share shall be convertible, at the option of the holder thereof, into such number of fully paid and non-assessable Class A Ordinary Shares on the basis that one Class B Ordinary Share shall be converted into one Class A Ordinary Share (being a 1:1 ratio and hereafter referred to as the "Conversion Rate"), subject to adjustment.

Transfer of Ordinary Shares

Subject to the restrictions set out below, any of our shareholders may transfer all or any of his, its or her Class A Ordinary Shares or Class B Ordinary Shares by an instrument of transfer in the usual or common form or any other form approved by our Board of Directors or in a form prescribed by the stock exchange on which our shares are then listed.

Our Board of Directors may, in its sole discretion, decline to register any transfer of any Class A Ordinary Shares or Class B Ordinary Shares whether or not it is fully paid up to the total consideration paid for such shares. Our directors may also decline to register any transfer of any Class A Ordinary Shares or Class B Ordinary Shares if (a) the instrument of transfer is not accompanied by the certificate covering the shares to which it relates or any other evidence as our Board of Directors may reasonably require to prove the title of the transferor to, or his/her right to transfer the shares; or (b) the instrument of transfer is in respect of more than one class of shares.

If our directors refuse to register a transfer, they shall, within two months after the date on which the instrument of transfer was lodged, send to the transferee notice of such refusal.

The registration of transfers may be suspended and the register closed at such times and for such periods as our Board of Directors may from time to time determine, provided, however, that the registration of transfers shall not be suspended nor the register closed for more than 30 days in any year.

Winding-Up/Liquidation

On a return of capital on winding up or otherwise (other than on conversion, redemption or purchase of shares), a liquidator may be appointed to determine how to distribute the assets among the holders of the Class A Ordinary Shares and Class B Ordinary Shares. If our assets available for distribution are insufficient to repay all of the paid-up capital, the assets will be distributed so that the losses are borne by our shareholders proportionately; a similar basis will be employed if the assets are more than sufficient to repay the whole of the capital at the commencement of the winding up.

Calls on Ordinary Shares and Forfeiture of Ordinary Shares

Our Board of Directors may from time to time make calls upon shareholders for any amounts unpaid on their Class A Ordinary Shares or Class B Ordinary Shares in a notice served to such shareholders at least 14 days prior to the specified time and place of payment. The shares that have been called upon and remain unpaid on the specified time are subject to forfeiture.

Redemption of Shares

We may issue shares on terms that are subject to redemption, at our option or at the option of the holders, on such terms and in such manner as may be determined by our Board of Directors.

Variations of Rights of Shares

All or any of the special rights attached to any class of shares may, be varied with the resolution of at least two thirds of the issued shares of that class or a resolution passed at a general meeting of the holders of the shares of that class present in person or by proxy or with the consent in writing of the holders of at least two-thirds of the issued shares of that class.

Inspection of Books and Records

Directors shall from time to time determine whether and to what extent and at what times and places and under what conditions or regulations the accounts and books of the Company or any of them shall be open to the inspection of members not being Directors and no member (not being a Director) shall have any right of inspecting any account or book or document of the Company except as conferred by Companies Law or authorized by the Directors or by the Company in a general meeting. However, the Directors shall from time to time cause to be prepared and to be laid before the Company in a general meeting, profit and loss accounts, balance sheets, group accounts (if any) and such other reports and accounts as may be required by Companies Law. (See "Where You Can Find More Information")

Issuance of Additional Shares

Our Memorandum and Articles authorize our Board of Directors to issue additional Class A Ordinary Shares or Class B Ordinary Shares from time to time as our Board of Directors shall determine, to the extent there are available authorized but unissued shares.

Issuance of additional shares may dilute the voting power of holders of Class A Ordinary Shares and Class B Ordinary Shares. However, our Memorandum of Association provides for authorized share capital comprising Class A Ordinary Shares and Class B Ordinary Shares and to the extent the rights attached to any class may be varied, the Company must comply with the provisions in the Memorandum and Articles relating to variations to rights of shares.

Anti-Takeover Provisions

Some provisions of our Memorandum and Articles may discourage, delay or prevent a change of control of our Company or management that shareholders may consider favorable, including provisions that limit the ability of shareholders to requisition and convene general meetings of shareholders. Our Memorandum and Articles allow our shareholders holding shares representing in aggregate not less than ten percent of our paid up share capital (as to the total consideration paid for such shares) in issue to requisition an extraordinary general meeting of our shareholders, in which case our directors are obliged to call such meeting and to put the resolutions so requisitioned to a vote at such meeting.

However, under Cayman Islands law, our directors may only exercise the rights and powers granted to them under our Memorandum and Articles for a proper purpose and for what they believe in good faith to be in the best interests of our Company.

General Meetings of Shareholders and Shareholder Proposals

Our shareholders' general meetings may be held in such place within or outside the Cayman Islands as our Board of Directors considers appropriate.

As a Cayman Islands exempted company, we are not obliged by the Companies Law to call shareholders' annual general meetings. However, our Memorandum and Articles provide that we shall hold a general meeting in each year as our annual general meeting other than the year in which the Memorandum and Articles were adopted at such time and place as determined by the directors. The directors may, whenever they think fit, convene an extraordinary general meeting.

Shareholders' annual general meetings and any other general meetings of our shareholders may be convened by a majority of our Board of Directors. Our Board of Directors shall give not less than seven days' written notice of a shareholders' meeting to those persons whose names appear as members in our register of members on the date the notice is given (or on any other date determined by our directors to be the record date for such meeting) and who are entitled to vote at the meeting.

Cayman Islands law provides shareholders with only limited rights to requisition a general meeting, and does not provide shareholders with any right to put any proposal before a general meeting. However, these rights may be provided in a company's articles of association. Our Memorandum and Articles allow our shareholders holding shares representing in aggregate not less than ten percent of our paid up share capital (as to the total consideration paid for such shares) in issue to requisition an extraordinary general meeting of our shareholders, in which case our directors are obliged to call such meeting and to put the resolutions so requisitioned to a vote at such meeting; otherwise, our Memorandum and Articles do not provide our shareholders with any right to put any proposals before annual general meetings or extraordinary general meetings not called by such shareholders.

Exempted Company

We are an exempted company with limited liability under the Companies Law. The Companies Law distinguishes between ordinary resident companies and exempted companies. A Cayman Islands exempted company:

- is a company that conducts its business mainly outside of the Cayman Islands;
- is exempted from certain requirements of the Companies Law, including the filing an annual return of its shareholders with the Registrar of Companies or the Immigration Board;
- does not have to make its register of members open for inspection;
- does not have to hold an annual general meeting;
- may issue negotiable or bearer shares or shares with no par value (subject to the provisions of the Companies Law);
- may obtain an undertaking against the imposition of any future taxation (such undertakings are usually given for 20 years in the first instance); and
- may register by way of continuation in another jurisdiction and be deregistered in the Cayman Islands.

“Limited liability” means that the liability of each shareholder is limited to the amount unpaid by the shareholder on the shares of the company (except in exceptional circumstances, such as involving fraud, the establishment of an agency relationship or an illegal or improper purpose or other circumstances in which a court may be prepared to pierce or lift the corporate veil).

Register of Members

Under Cayman Islands law, we must keep a register of members and there should be entered therein:

- the names and addresses of the members, a statement of the shares held by each member, and of the amount paid or agreed to be considered as paid, on the shares of each member;
- the date on which the name of any person was entered on the register as a member; and
- the date on which any person ceased to be a member.

Under Cayman Islands law, the register of members of our Company is prima facie evidence of the matters set out therein (i.e. the register of members will raise a presumption of fact on the matters referred to above unless rebutted) and a member registered in the register of members is deemed as a matter of Cayman Islands law to have legal title to the shares as set against its name in the register of members. Once our register of members has been updated, the shareholders recorded in the register of members are deemed to have legal title to the shares set against their name.

If the name of any person is incorrectly entered in, or omitted from, our register of members, or if there is any default or unnecessary delay in entering on the register the fact of any person having ceased to be a member of our Company, the person or member aggrieved (or any member of our Company or our Company itself) may apply to the Cayman Islands Grand Court for an order that the register be rectified, and the Court may either refuse such application or it may, if satisfied of the justice of the case, make an order for the rectification of the register.

Indemnification of Directors and Executive Officers and Limitation of Liability

Cayman Islands law does not limit the extent to which a company’s memorandum and articles of association may provide for indemnification of officers and directors, except to the extent any such provision may be held by the Cayman Islands courts to be contrary to public policy, such as to provide indemnification against civil fraud or the consequences of committing a crime. Our Memorandum and Articles require us to indemnify our officers and directors for actions, proceedings, claims, losses, damages, costs, liabilities and expenses (“Indemnified Losses”) incurred in their capacities as such unless such Indemnified Losses arise from dishonesty of such directors or officers. This standard of conduct is generally the same as permitted under the Delaware General Corporation Law for a Delaware corporation.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers or persons controlling us under the foregoing provisions, we have been informed that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Preferred Shares

As all the current authorized share capital is designated as Class A Ordinary Share or Class B Ordinary Share only, shareholders’ resolution will be needed to amend the authorized share capital if the Company decides to issue preferred shares. After such resolution and amendment, the Board is empowered to designate and issue from time to time one or more classes or series of preferred shares and to fix and determine the relative rights, preferences, designations, qualifications, privileges, options, conversion rights, limitations and other special or relative rights of each such class or series so authorized. Such action could adversely affect the voting power and other rights of the holders of the Company’s ordinary shares or could have the effect of discouraging or making difficult any attempt by a person or group to obtain control of the Company.

Description of Warrants

We may issue warrants to purchase our Class A Ordinary Shares or preferred shares. Warrants may be issued independently or together with any other securities that may be sold by us pursuant to this prospectus or any combination of the foregoing and may be attached to, or separate from, such securities. To the extent warrants that we issue are to be publicly-traded, each series of such warrants will be issued under a separate warrant agreement to be entered into between us and a warrant agent. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe in particular the terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits 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 the warrant and/or warrant agreement, if any, which may include a form of warrant certificate, as applicable that describes the terms of the particular series of warrants we may offer before the issuance of the related series of warrants. We may issue the warrants under a warrant agreement that we will enter into with a warrant agent to be selected by us. The warrant agent will act solely as our agent in connection with the warrants and will not assume any obligation or relationship of agency or trust for or with any registered holders of warrants or beneficial owners of warrants. The following summary of material provisions of the warrants and warrant agreements is subject to, and qualified in its entirety by reference to, all the provisions of the form of warrant and/or warrant agreement and warrant certificate applicable to a particular series of warrants. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete form of warrant and/or the warrant agreement and warrant certificate, as applicable, that contain the terms of the 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 the warrants;
- the price or prices at which the warrants will be issued;
- the designation, amount and terms of the securities or other rights for which the warrants are exercisable;
- the designation and terms of the other securities, if any, with which the warrants are to be issued and the number of warrants issued with each other security;
- the aggregate number of warrants;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;
- the price or prices at which the securities or other rights purchasable upon exercise of the warrants may be purchased;
- if applicable, the date on and after which the warrants and the securities or other rights purchasable upon exercise of the warrants will be separately transferable;
- a discussion of any material U.S. federal income tax considerations applicable to the exercise of the warrants;
- the date on which the right to exercise the warrants will commence, and the date on which the right will expire;
- the maximum or minimum number of warrants that may be exercised at any time;
- information with respect to book-entry procedures, if any; and
- any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Exercise of Warrants

Each warrant will entitle the holder of warrants to purchase the number of Class A Ordinary Shares or preferred shares of the relevant class or series at the exercise price stated or determinable in the prospectus supplement for the warrants. Warrants may be exercised at any time up to the close of business on the expiration date shown in the applicable prospectus supplement, unless otherwise specified in such prospectus supplement. After the close of business on the expiration date, if applicable, unexercised warrants will become void. Warrants may be exercised in the manner described in the applicable prospectus supplement. When the warrant holder makes the payment and properly completes and signs the warrant certificate at the corporate trust office of the warrant agent, if any, or any other office indicated in the prospectus supplement, we will, as soon as possible, forward the securities or other rights that the warrant holder has purchased. If the warrant holder exercises less than all of the warrants represented by the warrant certificate, we will issue a new warrant certificate for the remaining warrants. If we so indicate in the applicable prospectus supplement, holders of the warrants may surrender securities as all or part of the exercise price for warrants.

Prior to the exercise of any warrants to purchase Class A Ordinary Shares or preferred shares of the relevant class or series, holders of the warrants will not have any of the rights of holders of Class A Ordinary Shares or preferred shares purchasable upon exercise, including the right to vote or to receive any payments of dividends or payments upon our liquidation, dissolution or winding up on the Class A Ordinary Shares or preferred shares purchasable upon exercise, if any.

Outstanding Warrants

As of the date of this prospectus, there are no outstanding warrants to purchase Class A Ordinary Shares or Class B Ordinary Shares.

Description of Units

The following description, together with the additional information we may include in any applicable prospectus supplement, summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement and any related free writing prospectus. The terms of any units offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report we file with the SEC, the form of unit agreement that describes the terms of the series of units we may offer under this prospectus, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplement and any related free writing prospectus, as well as the complete unit agreement and any supplemental agreements that contain the terms of the units.

We may issue units comprised of Class A Ordinary Shares or preferred shares and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date. 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, if applicable;

- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other material terms of the units and their constituent securities.

The provisions described in this section, as well as those described under “Description of Share Capital - Ordinary Shares and Preferred Shares” and “Description of Warrants” will apply to each unit and to any Class A Ordinary Shares, preferred shares or warrant included in each unit, respectively.

Issuance in Series

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

Enforceability of Rights by Holders of Units

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

We, the unit agents and any of their agents may treat the registered holder of any unit certificate as an absolute owner of the units evidenced by that certificate for any purpose and as the person entitled to exercise the rights attaching to the units so requested, despite any notice to the contrary.

Description of Debt Securities

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will generally apply to any future debt securities we may offer under this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. The terms of any debt securities we offer under a prospectus supplement may differ from the terms we describe below. As of the date of this prospectus, we have no outstanding registered debt securities.

We may issue notes under senior or subordinated indentures or, separately, without the use of an indenture. If we issue senior or subordinated notes without the use of an indenture, we will issue such senior or subordinated notes directly to the purchasers of such senior or subordinated notes.

If we issue senior notes under a senior indenture, we will enter into such subordinated indenture with the trustee to be named in such senior indenture. If we issue subordinated notes under a subordinated indenture, we will enter into such subordinated indenture with the trustee to be named in such subordinated indenture. We will file as exhibits 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 such notes and indentures, if any, that describes the terms of the particular note we may offer under this prospectus, and any supplement agreements, before the issuance of the related note. We use the term “indentures” to refer to both the senior indenture and the subordinated indenture.

The indentures will be qualified under the Trust Indenture Act of 1939. References to the Trust Indenture Act of 1939 include all amendments thereto. We use the term “debenture trustee” to refer to either the senior trustee or the subordinated trustee, as applicable.

The following summaries of material provisions of the senior notes, the subordinated notes and the indentures are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities, and all supplements thereto. We urge you to read the applicable prospectus supplements related to the debt securities that we sell under this prospectus, as well as the complete indentures that contain the terms of the debt securities. Except as we may otherwise indicate, the terms of the senior and the subordinated indentures are identical.

The statements and descriptions in this prospectus or in any prospectus supplement regarding provisions of debt securities and any indentures are summaries of these provisions, do not purport to be complete and are subject to, and are qualified in their entirety by reference to, all of the provisions of the debt securities and the indentures (including any amendments or supplements we may enter into from time to time which are permitted under the debt securities or any indenture).

General

The terms of each series of debt securities will be established by or pursuant to a resolution of our board of directors and set forth or determined in the manner provided in an officers’ certificate or by a supplemental indenture. Debt securities may be issued in separate series without limitation as to aggregate principal amount. We may specify a maximum aggregate principal amount for the debt securities of any series. In addition, the particular terms of each series of debt securities will be described in a prospectus supplement relating to such series, including any pricing supplement. The prospectus supplement will set forth, among other things:

- the title;
- the principal amount being offered, and, if a series, the total amount authorized and the total amount outstanding;
- any limit on the amount that may be issued;
- whether or not we will issue the series of debt securities in global form and, if so, the terms and who the depositary will be;
- the maturity date;
- whether and under what circumstances, if any, we will pay additional amounts on any debt securities held by a person who is not a U.S. person for tax purposes, and whether we can redeem the debt securities if we have to pay such additional amounts;
- the annual interest rate, which may be fixed or variable, or the method for determining the rate, the date interest will begin to accrue, the dates interest will be payable and the regular record dates for interest payment dates or the method for determining such dates;
- the terms of the subordination of any series of subordinated debt, if applicable;
- the place where payments will be payable;

- restrictions on transfer, sale or other assignment, if any;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, the conditions upon which, and the price at which we may, at our option, redeem the series of debt securities pursuant to any optional or provisional redemption provisions, and any other applicable terms of those redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund or analogous fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities and the currency or currency unit in which the debt securities are payable;
- whether the indenture will restrict our ability and/or the ability of our subsidiaries to, among other things:
 - incur additional indebtedness;
 - issue additional securities;
 - create liens;
 - pay dividends and make distributions in respect of our capital stock and the capital stock of our subsidiaries;
 - redeem capital stock;
 - place restrictions on our subsidiaries' ability to pay dividends, make distributions or transfer assets;
 - make investments or other restricted payments;
 - sell or otherwise dispose of assets;
 - enter into sale-leaseback transactions;
 - engage in transactions with stockholders and affiliates;
 - issue or sell stock of our subsidiaries; or
 - effect a consolidation or merger;
- whether the indenture will require us to maintain any interest coverage, fixed charge, cash flow-based, asset-based or other financial ratios;

- information describing any book-entry features;
- provisions for a sinking fund purchase or other analogous fund, if any;
- whether the debt securities are to be offered at a price such that they will be deemed to be offered at an “original issue discount” as defined in paragraph (a) of Section 1273 of the Internal Revenue Code;
- the procedures for any auction and remarketing, if any;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof;
- if other than dollars, the currency in which the series of debt securities will be denominated; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities, including any events of default that are in addition to those described in this prospectus or any covenants provided with respect to the debt securities that are in addition to those described above, and any terms that may be required by us or advisable under applicable laws or regulations or advisable in connection with the marketing of the debt securities.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms on which a series of debt securities may be convertible into or exchangeable for Class A Ordinary Shares, preferred shares or other securities of ours or a third party, including the conversion or exchange rate, as applicable, or how it will be calculated, and the applicable conversion or exchange period. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of our securities or the securities of a third party that the holders of the series of debt securities receive upon conversion or exchange would, under the circumstances described in those provisions, be subject to adjustment, or pursuant to which those holders would, under those circumstances, receive other property upon conversion or exchange, for example in the event of our merger or consolidation with another entity.

Consolidation, Merger or Sale

The indentures in the forms initially filed as exhibits to the registration statement of which this prospectus is a part do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor of ours or the acquirer of such assets must assume all of our obligations under the indentures and the debt securities.

If the debt securities are convertible for our other securities, the person with whom we consolidate or merge or to whom we sell all of our property must make provisions for the conversion of the debt securities into securities that the holders of the debt securities would have received if they had converted the debt securities before the consolidation, merger or sale.

Events of Default Under the Indenture

The following are events of default under the indentures in the forms initially filed as exhibits to the registration statement with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and payable and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, sinking fund payment or premium, if any, when due and payable and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant contained in the debt securities or the indentures, other than a covenant specifically relating to another series of debt securities, and our failure continues for 90 days after we receive notice from the debenture trustee or holders of at least 25% in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur.

If an event of default with respect to debt securities of any series occurs and is continuing, other than an event of default specified in the last bullet point above, the debenture trustee or the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series, by notice to us in writing, and to the debenture trustee if notice is given by such holders, may declare the unpaid principal of, premium, if any, and accrued interest, if any, due and payable immediately. If an event of default specified in the last bullet point above occurs with respect to us, the principal amount of and accrued interest, if any, of each issue of debt securities then outstanding shall be due and payable without any notice or other action on the part of the debenture trustee or any holder.

The holders of a majority in principal amount of the outstanding debt securities of an affected series may waive any default or event of default with respect to the series and its consequences, except defaults or events of default regarding payment of principal, premium, if any, or interest, unless we have cured the default or event of default in accordance with the indenture. Any waiver shall cure the default or event of default.

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

- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act of 1939, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

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

- the holder has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity, to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series other conflicting directions within 90 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the debenture trustee regarding our compliance with specified covenants in the indentures.

Modification of Indenture; Waiver

We and the debenture trustee may change an indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the indenture;
- to comply with the provisions described above under “Consolidation, Merger or Sale”;
- to comply with any requirements of the SEC in connection with the qualification of any indenture under the Trust Indenture Act of 1939;
- to evidence and provide for the acceptance of appointment by a successor trustee;
- to provide for uncertificated debt securities and to make all appropriate changes for such purpose;
- to add to, delete from, or revise the conditions, limitations and restrictions on the authorized amount, terms or purposes of issuance, authorization and delivery of debt securities or any series, as set forth in the indenture;

- to provide for the issuance of and establish the form and terms and conditions of the debt securities of any series as provided under “General” to establish the form of any certifications required to be furnished pursuant to the terms of the indenture or any series of debt securities, or to add to the rights of the holders of any series of debt securities;
- to add to our covenants such new covenants, restrictions, conditions or provisions for the protection of the holders, to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an event of default, or to surrender any of our rights or powers under the indenture; or
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series that is affected. However, we and the debenture trustee may only make the following changes with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or reducing any premium payable upon the redemption of any debt securities; or
- reducing the percentage of debt securities, the holders of which are required to consent to any amendment, supplement, modification or waiver.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except that the following obligations, among others survive until the maturity date or the redemption date:

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

and the following obligations survive the maturity date or the redemption date:

- recover excess money held by the debenture trustee; and
- compensate and indemnify the debenture trustee.

As more fully set forth in the indentures, in order to exercise our rights to be discharged, we must either deliver for cancellation all securities of a series to the debenture trustee or must deposit with the debenture trustee money or government obligations sufficient to pay all the principal of, any premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange and Transfer

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

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

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

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

If we elect to redeem the debt securities of any series, we will not be required to:

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

Information Concerning the Debenture Trustee

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

Payment and Paying Agents

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

We will name in the applicable board resolution any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities that remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the debt security thereafter may look only to us for payment thereof.

Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act of 1939 is applicable.

Subordination of Subordinated Debt Securities

The subordinated debt securities will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The indentures in the forms initially filed as exhibits to the registration statement of which this prospectus is a part do not limit the amount of indebtedness that we may incur, including senior indebtedness or subordinated indebtedness, and do not limit us from issuing any other debt, including secured debt or unsecured debt.

PLAN OF DISTRIBUTION

We may sell our securities in any one or more of the following ways from time to time:

- through agents;
- to or through underwriters;
- through brokers or dealers;
- in “at the market offerings” within the meaning of Rule 415(a)(4) under the Securities Act, to or through a market maker or into an existing trading market, on an exchange or otherwise;
- directly by us to purchasers, including through a specific bidding, auction or other process; or
- through a combination of any of these methods of sale.

The applicable prospectus supplement will contain the terms of the transaction, the name or names of any underwriters, dealers, agents and the respective amounts of securities underwritten or purchased by them, the initial public offering price of the securities, and the applicable agent's commission, dealer's purchase price or underwriter's discount. Any dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and compensation received by them on resale of the securities may be deemed to be underwriting discounts.

Any initial offering price, dealer purchase price, discount or commission may be changed from time to time.

The securities may be distributed from time to time in one or more transactions, at negotiated prices, at a fixed price or fixed prices (that may be subject to change), at market prices prevailing at the time of sale, at various prices determined at the time of sale or at prices related to prevailing market prices.

Offers to purchase securities may be solicited directly by us or by agents designated by us from time to time. Unless otherwise indicated in the prospectus supplement, any such agent will use its commercially reasonable efforts to solicit purchases for the period of its appointment or to sell securities on a continuing basis. Agents may receive compensation in the form of commissions, discounts or concessions from us. Agents may also receive compensation from the purchasers of the securities for whom they sell as principals. Each particular agent will receive compensation in amounts negotiated in connection with the sale, which might be in excess of customary commissions. Any such agent may be deemed to be an underwriter, as that term is defined in the Securities Act, of the securities so offered and sold. Accordingly, any commission, discount or concession received by them and any profit on the resale of the securities purchased by them may be deemed to be underwriting discounts or commissions under the Securities Act. We have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. As of the date of this prospectus, there are no special selling arrangements between any broker-dealer or other person and us regarding any securities that may be sold pursuant to this prospectus or prospectus supplement. No period of time has been fixed within which the securities will be offered and sold.

If underwriters are utilized in the sale of any securities in respect of which this prospectus is being delivered, such securities will be acquired by the underwriters for their own account and may be resold from time to time in one or more transactions, including negotiated transactions, at fixed public offering prices or at varying prices determined by the underwriters at the time of sale. Securities may be offered to the public either through underwriting syndicates represented by managing underwriters or directly by one or more underwriters. If any underwriter or underwriters are utilized in the sale of securities, unless otherwise indicated in the applicable prospectus supplement, the obligations of the underwriters are subject to certain conditions precedent, and the underwriters will be obligated to purchase all such securities if they purchase any of them.

If a dealer is utilized in the sale of the securities in respect of which this prospectus is delivered, we will sell such securities to the dealer as principal. The dealer may then resell such securities to the public at varying prices to be determined by such dealer at the time of resale. Transactions through brokers or dealers may include block trades in which brokers or dealers will attempt to sell shares as agent but may position and resell as principal to facilitate the transaction or in cross trades, in which the same broker or dealer acts as agent on both sides of the trade. Any such dealer may be deemed to be an underwriter, as such term is defined in the Securities Act, of the securities so offered and sold.

Offers to purchase securities may be solicited directly by us, and the sale thereof may be made by us, directly to institutional investors or others who may be deemed to be underwriters within the meaning of the Securities Act with respect to any resale thereof.

Agents, underwriters and dealers may be entitled under relevant agreements with us to indemnification by us against certain liabilities, including liabilities under the Securities Act, or to contribution with respect to payments which such agents, underwriters and dealers may be required to make in respect thereof. The terms and conditions of any indemnification or contribution will be described in the applicable prospectus supplement.

Underwriters, broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from us. Underwriters, broker-dealers or agents may also receive compensation from the purchasers of shares for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular underwriter, broker-dealer or agent will be in amounts to be negotiated in connection with transactions involving shares and might be in excess of customary commissions. In effecting sales, broker-dealers engaged by us may arrange for other broker-dealers to participate in the resales.

Any securities offered other than Class A Ordinary Shares will be a new issue and, other than our Class A Ordinary Shares, which are listed on The Nasdaq Capital Market, will have no established trading market. We may elect to list any series of securities on an exchange, and in the case of our Class A Ordinary Shares, preferred shares and warrants, on any additional exchange, but, unless otherwise specified in the applicable prospectus supplement and/or other offering material, we shall not be obligated to do so. It is possible that one or more underwriters may make a market in a class or series of securities, but the underwriters 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, or the trading market for, any of the securities.

Agents, underwriters and dealers may engage in transactions with, or perform services for, us or our subsidiaries in the ordinary course of business.

Any underwriter may engage in overallotment, stabilizing transactions, short covering transactions and penalty bids in accordance with Regulation M under the Exchange Act. Overallotment involves sales in excess of the offering size, which create a short position. Stabilizing transactions permit bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Short covering transactions involve purchases of the securities in the open market after the distribution is completed to cover short positions. Penalty bids permit the underwriters to reclaim a selling concession from a dealer when the securities originally sold by the dealer are purchased in a covering transaction to cover short positions. Those activities may cause the price of the securities to be higher than it would otherwise be. If commenced, the underwriters may discontinue any of the activities at any time. An underwriter may carry out these transactions on The Nasdaq Capital Market, in the over-the-counter market or otherwise.

The place and time of delivery for securities will be set forth in the accompanying prospectus supplement.

LEGAL MATTERS

Except as otherwise set forth in the applicable prospectus supplement, certain legal matters in connection with the securities offered pursuant to this prospectus will be passed upon for us by Hunter Taubman Fischer & Li to the extent governed by the laws of the State of New York, and by Campbells to the extent governed by the laws of the Cayman Islands. If legal matters in connection with offerings made pursuant to this prospectus are passed upon by counsel to underwriters, dealers or agents, such counsel will be named in the applicable prospectus supplement relating to any such offering.

EXPERTS

The financial statements incorporated by reference in this prospectus for the year ended December 31, 2018 have been audited by Marcum Bernstein & Pinchuk LLP, an independent registered public accounting firm, as set forth in their report thereon appearing elsewhere herein, and are included in reliance upon such report given on the authority of such firm as experts in accounting and auditing. The financial statements for the six months ended June 30, 2019 appearing in this prospectus are not audited.

FINANCIAL INFORMATION

The financial statements for the year ended December 31, 2018 are included in our Annual Report on Form 20-F, which is incorporated by reference into this prospectus. The interim financial statements for the six months ended June 30, 2019 are included below.

APTORUM GROUP LIMITED Financial Statements

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APTORUM GROUP LIMITED
CONDENSED CONSOLIDATED BALANCE SHEETS
June 30, 2019 and December 31, 2018
(Stated in U.S. Dollars)

	As of June 30, 2019 <u>(Unaudited)</u>	As of December 31, 2018
ASSETS		
Current assets:		
Cash	\$ 4,466,741	\$ 12,006,624
Restricted cash	-	14,100,614
Digital currencies	117,482	-
Accounts receivable	8,367	2,827
Inventories	33,911	30,642
Marketable securities, at fair value	1,669,096	1,014,338
Investments in derivatives	425,916	115,721
Amounts due from related parties	-	169,051
Due from brokers	109,134	818,968
Other receivables and prepayments	911,997	464,156
Total current assets	<u>7,742,644</u>	<u>28,722,941</u>
Property, plant and equipment, net	5,777,657	4,260,602
Non-marketable investments	7,112,180	7,094,712
Intangible assets, net	1,347,594	1,409,540
Amounts due from related parties	50,000	50,000
Long-term prepayments	2,048,570	3,417,178
Loan receivable	571,975	-
Other non-current asset	89,750	119,667
Total Assets	<u>\$ 24,740,370</u>	<u>\$ 45,074,640</u>
LIABILITIES AND EQUITY		
LIABILITIES		
Current liabilities:		
Amounts due to related parties	\$ 3,512	\$ 33,417
Accounts payable and accrued expenses	548,433	1,247,147
Finance lease payable, current portion	45,196	43,877
Warrant liabilities	-	753,118
Convertible debts	-	10,107,306
Total current liabilities	<u>597,141</u>	<u>12,184,865</u>
Finance lease payable, non-current portion	120,941	143,873
Total Liabilities	<u>\$ 718,082</u>	<u>\$ 12,328,738</u>
Commitments and contingencies	-	-
EQUITY		
Class A Ordinary Shares (\$1.00 par value; 60,000,000 shares authorized, 6,597,362 shares issued and outstanding as at June 30, 2019 and 6,537,269 shares issued and outstanding as at December 31, 2018, respectively)	\$ 6,597,362	\$ 6,537,269
Class B Ordinary Shares (\$1.00 par value; 40,000,000 shares authorized, 22,437,754 shares issued and outstanding as at June 30, 2019 and December 31, 2018)	22,437,754	22,437,754
Additional paid-in capital	23,857,814	23,003,285
Accumulated other comprehensive income (loss)	7,345	(1,484,688)
Accumulated deficit	(27,957,689)	(17,379,185)
Total equity attributable to the shareholders of Aptorum Group Limited	<u>24,942,586</u>	<u>33,114,435</u>
Non-controlling interests	(920,298)	(368,533)
Total equity	<u>24,022,288</u>	<u>32,745,902</u>
Total Liabilities and Equity	<u>\$ 24,740,370</u>	<u>\$ 45,074,640</u>

See accompanying notes to the condensed consolidated financial statements.

APTORUM GROUP LIMITED
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
For the six months ended June 30, 2019 and 2018
(Stated in U.S. Dollars)

	For the six months ended June 30,	
	2019 (Unaudited)	2018 (Unaudited)
Revenue		
Healthcare services income	\$ 239,792	\$ 26,662
Operating expenses		
Costs of healthcare services	(371,218)	(22,749)
Research and development expenses	(2,714,217)	(1,342,179)
General and administrative fees	(3,232,916)	(2,238,025)
Legal and professional fees	(2,008,774)	(1,063,032)
Other operating expenses	(120,788)	(235,413)
Total operating expenses	<u>(8,447,913)</u>	<u>(4,901,398)</u>
Other loss		
Gain on investments in marketable securities, net	315,977	-
Gain on non-marketable investment	1,147,199	-
Gain (loss) on investments in derivatives, net	310,195	(359,844)
Realized gain on use of digital currencies	12,334	-
Changes in fair value of warrant liabilities	(866,300)	-
Gain on extinguishment of convertible debts	1,198,490	-
Interest expense, net	(3,678,566)	(301,362)
Sundry income	128,444	-
Total other loss, net	<u>(1,432,227)</u>	<u>(661,206)</u>
Net loss	<u>\$ (9,640,348)</u>	<u>\$ (5,535,942)</u>
Less: net loss attributable to non-controlling interests	(551,877)	(47,570)
Net loss attributable to Aptorum Group Limited	<u>\$ (9,088,471)</u>	<u>\$ (5,488,372)</u>
Net loss per share – basic and diluted	\$ (0.31)	\$ (0.20)
Weighted-average shares outstanding – basic and diluted	<u>28,978,151</u>	<u>27,864,135</u>
Net loss	<u>\$ (9,640,348)</u>	<u>\$ (5,535,942)</u>
Other Comprehensive income (loss)		
Unrealized loss on investments in available-for-sale securities	-	(178,027)
Exchange differences on translation of foreign operations	2,000	167
Other Comprehensive income (loss)	<u>2,000</u>	<u>(177,860)</u>
Comprehensive loss	<u>(9,638,348)</u>	<u>(5,713,802)</u>
Less: comprehensive loss attributable to non-controlling interests	(551,877)	(47,570)
Comprehensive loss attributable to the shareholders of Aptorum Group Limited	<u>(9,086,471)</u>	<u>(5,666,232)</u>

See accompanying notes to the condensed consolidated financial statements.

APTORUM GROUP LIMITED
CONDENSED CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
For the six months ended June 30, 2019 and 2018
(Stated in U.S. Dollars)

	Class A Ordinary Shares		Class B Ordinary Shares		Additional Paid-in Capital	Accumulated deficit	Accumulated other comprehensive income (loss)	Non-controlling interests	Total
	Shares	Amount	Shares	Amount					
Balance, December 31, 2018	6,537,269	\$ 6,537,269	22,437,754	\$ 22,437,754	\$ 23,003,285	\$ (17,379,185)	\$ (1,484,688)	\$ (368,533)	\$ 32,745,902
Adjustment to opening balance of equity	-	-	-	-	-	(1,490,033)	1,490,033	-	-
Balance, January 1, 2019	6,537,269	\$ 6,537,269	22,437,754	\$ 22,437,754	\$ 23,003,285	\$ (18,869,218)	\$ 5,345	\$ (368,533)	\$ 32,745,902
Issuance of share to non-controlling interest	-	-	-	-	(112)	-	-	112	-
Net loss	-	-	-	-	-	(9,088,471)	-	(551,877)	(9,640,348)
Reacquisition of convertible bonds	-	-	-	-	(1,298,490)	-	-	-	(1,298,490)
Share-based compensation	-	-	-	-	593,806	-	-	-	593,806
Exercise of warrants	60,093	60,093	-	-	1,559,325	-	-	-	1,619,418
Exchange difference on translation of foreign operations	-	-	-	-	-	-	2,000	-	2,000
Balance, June 30, 2019 (Unaudited)	<u>6,597,362</u>	<u>\$ 6,597,362</u>	<u>\$ 22,437,754</u>	<u>\$ 22,437,754</u>	<u>\$ 23,857,814</u>	<u>\$ (27,957,689)</u>	<u>\$ 7,345</u>	<u>\$ (920,298)</u>	<u>\$ 24,022,288</u>
Balance, January 1, 2018	5,426,381	\$ 5,426,381	22,437,754	\$ 22,437,754	\$ 5,294,402	\$ (2,547,462)	\$ (367,782)	\$ (14,045)	\$ 30,229,248
Proceeds from non-controlling interest	-	-	-	-	51,727	-	-	(51,726)	1
Net loss	-	-	-	-	-	(5,488,372)	-	(47,570)	(5,535,942)
Unrealized loss on investments in available-for-sale securities	-	-	-	-	-	-	(178,027)	-	(178,027)
Exchange difference on translation of foreign operations	-	-	-	-	-	-	167	-	167
Balance, June 30, 2018 (Unaudited)	<u>5,426,381</u>	<u>\$ 5,426,381</u>	<u>\$ 22,437,754</u>	<u>\$ 22,437,754</u>	<u>\$ 5,346,129</u>	<u>\$ (8,035,834)</u>	<u>\$ (545,642)</u>	<u>\$ (113,341)</u>	<u>\$ 24,515,447</u>

See accompanying notes to the condensed consolidated financial statements.

APTORUM GROUP LIMITED
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
For the six months ended June 30, 2019 and 2018
(Stated in U.S. Dollars)

	Six months ended June 30, 2019 <u>(Unaudited)</u>	Six months ended June 30, 2018 <u>(Unaudited)</u>
Cash flows from operating activities		
Net loss	\$ (9,640,348)	\$ (5,535,942)
Adjustments to reconcile net loss to net cash used in operating activities:		
Amortization and depreciation	585,701	209,267
Share-based compensation	593,806	-
Gain on investments in marketable securities, net	(315,977)	-
Gain on non-marketable investment	(1,147,199)	-
(Gain) loss on investments in derivatives, net	(310,195)	359,844
Changes in fair value of warrant liabilities	866,300	-
Realized gain on use of digital currencies	(12,334)	-
Utilization of digital currencies	94,852	-
Gain on extinguishment of convertible debts	(1,198,490)	-
Interest income	(61,791)	(105,118)
Interest expense and accretion of convertible debts	3,735,027	405,430
Accretion of capital lease obligation	5,309	1,050
Changes in operating assets and liabilities:		
Accounts receivable	(5,540)	(9,835)
Inventories	(3,269)	(3,741)
Other receivables and prepayments	(386,069)	(8,492)
Other non-current asset	-	(179,500)
Long-term prepayments	55,429	(1,631,105)
Due from brokers	709,834	(258)
Due from related parties	169,051	-
Due to related parties	(29,905)	17,612
Accounts payable and accrued expenses	(1,039,201)	165,082
Net cash used in operating activities	<u>(7,335,009)</u>	<u>(6,315,706)</u>
Cash flows from investing activities		
Disbursement of a loan to a third party	(1,400,000)	(3,000,000)
Repayment of a loan from a third party	828,025	3,000,000
Purchases of intangible assets	(10,743)	(237,289)
Purchases of property, plant and equipment	(686,798)	(2,542,039)
Proceeds from sale of marketable securities	790,950	-
Purchase of digital currencies	(200,000)	-
Net cash provided by (used in) investing activities	<u>(678,566)</u>	<u>(2,779,328)</u>
Cash flows from financing activities		
Payment for settlement of convertible debts	(13,600,000)	-
Payment of finance lease obligations	(26,922)	(31,409)
Advances to/payments received from related parties	-	107,434
Proceeds from issuance of convertible debts	-	16,120,400
Payments for debt issuance costs	-	(900,000)
Net cash (used in) provided by financing activities	<u>(13,626,922)</u>	<u>15,296,425</u>
Net (decrease) increase in cash and restricted cash	(21,640,497)	6,201,391
Cash and restricted cash- Beginning of period	26,107,238	16,725,807
Cash and restricted cash - End of period	<u>\$ 4,466,741</u>	<u>\$ 22,927,198</u>
Supplemental disclosures of cash flow information		
Interest paid	\$ 557,333	\$ 1,050
Income taxes paid	\$ -	\$ -
Non-cash investing and financing activities:		
Net settlement of related party balances	\$ -	\$ 164,976
Reconciliation of cash and restricted cash		
Cash	\$ 4,466,741	\$ 6,727,200
Restricted cash	-	16,199,998
Total cash and restricted cash shown on the consolidated statements of cash flows	<u>\$ 4,466,741</u>	<u>\$ 22,927,198</u>

See accompanying notes to the condensed consolidated financial statements.

APTORUM GROUP LIMITED
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
(Stated in U.S. Dollars)

1. ORGANIZATION

The Company, formally known as APTUS Holdings Limited and STRIKER ASIA OPPORTUNITIES FUND CORPORATION, is a company incorporated on September 13, 2010 under the laws of the Cayman Islands with limited liability.

The condensed consolidated financial statements include the financial statements of Aptorum Group Limited (the Company”) and its subsidiaries. The Company and its subsidiaries are hereinafter collectively referred to as the “Group”.

On March 1, 2017, the Company changed from an investment fund with management shares and non-voting participating redeemable preference shares to a holding company with operating subsidiaries. After that, the Company has become a biopharmaceutical company currently in the preclinical stage. The Company researches and develops life science and biopharmaceutical products within its wholly-owned subsidiary, Aptorum Therapeutics Limited, formerly known as APTUS Therapeutics Limited (“Aptorum Therapeutics”) and its indirect subsidiary companies (collectively, “Aptorum Therapeutics Group”).

Below summarizes the list of the subsidiaries consolidated as of June 30, 2019:

Name	Incorporation date	Ownership	Place of incorporation	Principle activities
Aptorum Therapeutics Limited	June 30, 2016	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
APTUS MANAGEMENT LIMITED	May 16, 2017	100%	Hong Kong	Provision of management services to its holding company and fellow subsidiaries
Aptorum Medical Limited	August 28, 2017	94%	Cayman Islands	Provision of medical clinic services
Aptorum Innovations Holding Limited	April 15, 2019	100%	Cayman Islands	Investment holding company
Aptorum Innovations Holding Pte. Ltd.	June 5, 2019	100%	Singapore	Research and development of life science and biopharmaceutical products
Aptorum Investment Holding Limited	March 29, 2019	100%	Cayman Islands	Investment holding company
Aptorum Group LLC	August 14, 2019	100%	Nevada	Provision of public relation services to its holding company
Aptus Therapeutics (Hong Kong) Limited	June 30, 2016	100%	Hong Kong	Research and development of life science and biopharmaceutical products
APTUS BIOTECHNOLOGY (MACAO) LIMITED*	June 6, 2016	99%	Macao	Inactive
APTORUM INTERNATIONAL LIMITED	March 26, 2018	100%	United Kingdom	Inactive
Aptorum Pharmaceutical Development Limited	August 28, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
Smart Pharmaceutical Development Limited (Formerly known as “Forum Property Holding Limited”)	March 6, 2018	100%	Cayman Islands	Inactive

APTORUM GROUP LIMITED
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
(Stated in U.S. Dollars)

Name	Incorporation date	Ownership	Place of incorporation	Principle activities
Videns Incorporation Limited (Formerly named Videns Biosciences Limited and VIDENS CORPORATION)	March 2, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
mTOR (Hong Kong) Limited	November 4, 2016	90%	Hong Kong	Research and development of life science and biopharmaceutical products
Videns Incorporation (Hong Kong) Limited	July 3, 2017	100%	Hong Kong	Inactive
Nativus Life Sciences Limited	July 7, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
Nativus Life Sciences (Hong Kong) Limited	August 8, 2017	100%	Hong Kong	Inactive
Scipio Life Sciences Limited	July 19, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
Scipio Life Sciences (Hong Kong) Limited	August 10, 2017	100%	Hong Kong	Inactive
Claves Life Sciences Limited	August 2, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
Claves Life Sciences (Hong Kong) Limited	August 22, 2017	100%	Hong Kong	Inactive
Signate Life Sciences Limited	August 28, 2017	100%	Cayman Islands	Research and development of life science and biopharmaceutical products
Signate Life Sciences (Hong Kong) Limited	August 10, 2017	100%	Hong Kong	Inactive
Acticule Life Sciences Limited	June 30, 2017	80%	Cayman Islands	Research and development of life science and biopharmaceutical products
Acticule Life Sciences (Hong Kong) Limited	July 27, 2017	80%	Hong Kong	Inactive
Lanither Life Sciences Limited	April 4, 2018	80%	Cayman Islands	Inactive
Lanither Life Sciences (Hong Kong) Limited	May 25, 2018	80%	Hong Kong	Inactive
SMTPH Limited	April 18, 2019	100%	Seychelles	Investment holding company
Smart Pharmaceutical Research Limited	April 24, 2019	100%	Samoa	Pharmaceutical research and analysis
Smart Pharmaceutical Development Pte. Ltd.	May 10, 2019	100%	Singapore	Research and development of life science and biopharmaceutical products
Smart Pharmaceutical Limited Partnership	June 7, 2019	100%	Seychelles	Issuance of asset backed securities

* The subsidiary was deregistered on August 20, 2019.

Initial public offering

On December 17, 2018, the Group completed an initial public offering (the “IPO” or “Offering”) with new issuance of 761,419 ordinary shares at \$15.80 per share for total offering size of approximately \$12.0 million before deducting commissions and expenses. The net proceeds from the IPO was approximately \$10.3 million, net of an underwriting discount of approximately \$1.2 million, including \$0.2 million warrant issued, and offering costs of approximately \$0.5 million. The Class A Ordinary Shares began trading on the NASDAQ Global Market on December 17, 2018 under the ticker symbol “APM”.

Deferred offering costs

Deferred offering costs consist principally of legal, printing and registration costs in connection with the Group’s IPO. Such costs are deferred until the closing of the Offering, at which time the deferred costs are offset against the offering proceeds. Deferred offering costs as of December 31, 2018 and 2017 amounted to \$nil on the consolidated balance sheets. At the completion of the IPO, US\$1,732,229 offering costs was charged to additional paid-in capital.

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2. LIQUIDITY

The Company reported a net loss of \$9,640,348 and net operation cash outflow of \$7,335,009 for the six months ended June 30, 2019, respectively. In addition, the Company had an accumulated deficit of \$27,957,689 as of June 30, 2019. The Company's operating results for future periods are subject to numerous uncertainties and it is uncertain if the Company will be able to reduce or eliminate its net losses for the foreseeable future. If management is not able to generate significant revenues from its product candidates currently in development, the Company may not be able to achieve profitability.

The Company's principal sources of liquidity have been cash and marketable securities. As of the date of issuance of the consolidated financial statements, the Company has approximately \$3 million of cash and marketable securities. In addition, based upon the current market price of the Company's marketable securities, it anticipates it can liquidate such marketable securities, if necessary. On August 13, 2019, the Company entered into financing arrangements with Aeneas Group Limited, a related party, and Jurchen Investment Corporation, the ultimate parent of the Group, allowing the Group to access up to a total \$15.0 million in line of credit debt financing. (See Note 17)

The Company believes that available cash and marketable securities, together with signed loan facilities, should enable the Company to meet presently anticipated cash needs for at least the next 12 months after the date that the financial statements are issued and the Company has prepared the consolidated financial statements on a going concern basis. If the Company encounters unforeseen circumstances that place constraints on its capital resources, management will be required to take various measures to conserve liquidity, which could include, but not necessarily be limited to, deferring some of its research and seeking to dispose of marketable securities.

3. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Principles of consolidation

The condensed consolidated financial statements of the Group are presented on the accrual basis of accounting in accordance with U.S. GAAP and include the accounts of the Company, its direct and indirect wholly and majority owned subsidiaries. All material intercompany balances and transactions have been eliminated in preparation of the condensed consolidated financial statements. Non-controlling interests represent the equity interest that is not owned by the Group.

Use of estimates

The preparation of the condensed consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of increases and decreases in net assets from operations as well as income and expenses during the reporting period. Significant accounting estimates reflected in the Group's condensed consolidated financial statements include valuing equity securities, fair value of investments in securities, convertible debts and finance lease, the useful lives of intangible assets and property, plant and equipment, impairment of long-lived assets, valuation allowance for deferred tax assets, and collectability of receivables. Actual results could differ from those estimates.

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Digital currencies

Digital currencies are included in current assets in the accompanying condensed consolidated balance sheets. Digital currencies purchased are recorded at cost.

Digital currencies held are accounted for as intangible assets with indefinite useful lives. An intangible asset with an indefinite useful life is not amortized but assessed for impairment annually, or more frequently, when events or changes in circumstances occur indicating that it is more likely than not that the indefinite-lived asset is impaired. Impairment exists when the carrying amount exceeds its fair value, which is measured using the quoted price of the digital currency at the time its fair value is being measured. In testing for impairment, the Company has the option to first perform a qualitative assessment to determine whether it is more likely than not that an impairment exists. If it is determined that it is not more likely than not that an impairment exists, a quantitative impairment test is not necessary. If the Company concludes otherwise, it is required to perform a quantitative impairment test. To the extent an impairment loss is recognized, the loss establishes the new cost basis of the asset. Subsequent reversal of impairment losses is not permitted.

Purchases of digital currencies by the Group are included within investing activities in the accompanying condensed consolidated statements of cash flows. The utilization of digital currencies in exchange of services are included within operating activities in the accompanying condensed consolidated statements of cash flows and any realized gains or losses from such use are included in other income (expense) in the condensed consolidated statements of operations. The Company accounts for its gains or losses in accordance with the first in first out (FIFO) method.

Marketable Securities

Marketable Securities are publicly traded stocks measured at fair value and classified within Level 1 and 2 in the fair value hierarchy because the Group uses quoted prices for identical assets in active markets or inputs that are based upon quoted prices for similar instruments in active markets.

Gain on investments in marketable securities, net, amounting to \$315,977 and \$nil, respectively, were recognized in the condensed consolidated statements of operations for the six months ended June 30, 2019 and 2018.

During the six months ended June 30, 2019, the Group disposed of marketable securities, with sales proceeds of \$790,950 received and recorded in due from brokers, and recognized a realized gain of \$627,014 in the condensed consolidated statements of operations, respectively. No disposal was recorded during the period from January 1, 2018 to June 30, 2018.

Investments in Derivatives

Investments in derivatives consisted of warrants, which are measured at fair value, with gains or losses from changes in fair value recorded through earnings. The fair value of these warrants have been determined using the Black-Scholes pricing mode. The Black-Scholes pricing model provides for assumptions regarding volatility, call and put features and risk-free interest rates within the total period to maturity.

No disposal was recorded during the six months ended June 30, 2019 and 2018. Unrealized gain on the investments in derivatives amounted to \$310,195 was recognized in the condensed consolidated statements of operations for the six months ended June 30, 2019. Unrealized loss on the investments in derivatives amounted to \$359,844 was recognized in the condensed consolidated statements of operations for the six months ended June 30, 2018.

Non-marketable investments

Non-marketable investments are comprising of investments in non-redeemable preferred shares of privately-held companies are not required to be consolidated under the variable interest or voting models. Non-marketable investments are classified as non-current assets on the condensed consolidated balance sheets as those investments do not have stated contractual maturity dates.

Effective January 1, 2019, the non-marketable equity securities not accounted for under the equity method are either carried at fair value or under the measurement alternative upon the adoption of ASU 2016-01. Under the measurement alternative, the carrying value is measured at cost, less any impairment, plus or minus changes resulting from observable price changes in orderly transactions for identical or similar investments of the same issuer. Adjustments are determined primarily based on a market approach as of the transaction date.

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Convertible debts

The Group determines the appropriate accounting treatment of its convertible debts in accordance with the terms in relation to the conversion feature, call and put option, beneficial conversion feature (“BCF”) and settlement feature. On December 17, 2018, the Group concluded that the contingency of BCF was effectively resolved upon the completion of the IPO and recognized BCF according to the agreement.

The repurchasing of convertible debts is considered an extinguishment and the difference between the repurchasing price of debt, the net carrying amount of the extinguished debt and the intrinsic value of BCF is recognized in the condensed consolidated statements of operations. The intrinsic value of BCF of \$1.3 million at the extinguishment date was recorded as a reduction of additional paid-in capital. On April 24, 2019, the Group repurchased its convertible debts at \$13.6 million with carrying amount of \$13.5 million and the intrinsic value of BCF is \$1.3 million with a gain on extinguishment on convertible debts of \$1.2 million.

Revenue recognition

Revenue is recognized when (or as) the Company satisfies performance obligations by transferring a promised goods or services to a customer. Revenue is measured at the transaction price which is based on the amount of consideration that the Company expects to receive in exchange for transferring the promised goods or services to the customer. Contracts with customers are comprised of invoices and written contracts. Revenue from healthcare services is measured upon the provision of the relevant services.

Recently adopted accounting pronouncements

In May 2014, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2014-09, Revenue from Contracts with Customers (Topic 606) (“ASU 2014-09”), which was subsequently modified in August 2015 by ASU 2015-14, Revenue from Contracts with Customers: Deferral of the Effective Date. We adopted this standard effective January 1, 2019 using the modified retrospective approach, in which case the cumulative effect of applying the standard would be recognized at the date of initial application. The adoption does not have a material impact to the condensed consolidated financial statements.

In January 2016, the FASB issued Accounting Standards Update No. 2016-01 (ASU 2016-01) "Financial Instruments-Overall (Subtopic 825-10): Recognition and Measurement of Financial Assets and Financial Liabilities," which amends various aspects of the recognition, measurement, presentation, and disclosure of financial instruments. We adopted ASU 2016-01 as of January 1, 2019 using the modified retrospective method for our marketable equity securities and the prospective method for our non-marketable equity securities. The following table summarizes the changes to our condensed consolidated balance sheet for the adoption of ASU 2016-01:

	December 31, 2018	Adjustment due to ASU 2016-01	January 1, 2019
Accumulated deficit	\$ (17,379,185)	\$ (1,490,033)	\$ (18,869,218)
Accumulated other comprehensive loss	\$ (1,484,688)	\$ 1,490,033	\$ 5,345

We have elected to use the measurement alternative for our non-marketable equity securities, defined as cost adjusted for changes from observable transactions for identical or similar investments of the same issuer, less impairment. The adoption of ASU 2016-01 increases the volatility of our other income (expense), net, as a result of the unrealized gain or loss from the remeasurement of our equity securities.

Recently issued accounting standards which have not yet been adopted

In June 2016, the FASB issued ASU 2016-13, Financial Instruments—Credit Losses (“ASU 2016-13”). Subsequently, the FASB issued ASU 2019-05, Financial Instruments- Credit Losses (Topic 326): Targeted Transition Relief. The amendments in ASU 2016-13 update guidance on reporting credit losses for financial assets. These amendments affect loans, debt securities, accounts receivables, net investments in leases, off balance sheet credit exposures, reinsurance receivables, and any other financial assets not excluded from the scope that have the contractual right to receive cash. The amendments are effective for fiscal years beginning after December 15, 2020, and interim periods within those fiscal years. The Company is currently evaluating the impact on its financial statements of adopting this guidance.

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4. REVENUE

The Company adopted ASC 606 using the modified retrospective method as applied to customer contracts that were not completed as of January 1, 2019. As a result, financial information for reporting periods beginning after January 1, 2019 are presented under ASC 606, while comparative financial information has not been adjusted and continues to be reported in accordance with the Company's historical accounting policy for revenue recognition prior to the adoption of ASC 606.

For the six months ended June 30, 2019, all revenue is come from provision of healthcare services in Hong Kong.

5. FAIR VALUE MEASUREMENT

The following table provides the assets and liabilities carried at fair value measured on a recurring basis as of June 30, 2019 and December 31, 2018:

June 30, 2019	Level 1	Level 2	Level 3	Total
Current Assets				
Marketable securities				
Common stocks	\$ 379,110	\$ 1,289,986	\$ -	\$ 1,669,096
Investments in derivatives				
Warrants	-	-	425,916	425,916
Total assets at fair value	\$ 379,110	\$ 1,289,986	\$ 425,916	\$ 2,095,012
December 31, 2018	Level 1	Level 2	Level 3	Total
Current Assets				
Marketable securities – Available-for-sale securities				
Common stocks	\$ 813,728	\$ 200,610	\$ -	\$ 1,014,338
Investments in derivatives				
Warrants	-	-	115,721	115,721
Total assets at fair value	\$ 813,728	\$ 200,610	\$ 115,721	\$ 1,130,059

The following is a reconciliation of Level 3 assets for the six months ended June 30, 2019:

	Warrants
Balance at January 1, 2019	\$ 115,721
Change in unrealized appreciation	310,195
Balance at June 30, 2019	\$ 425,916
Net change in unrealized appreciation relating to investments still held at June 30, 2019	310,195

The following is a reconciliation of Level 3 assets for the six months ended June 30, 2018

	Warrants
Balance at January 1, 2018	\$ 1,070,940
Change in unrealized depreciation	(359,836)
Balance at June 30, 2018	\$ 711,104
Net change in unrealized depreciation relating to investments still held at June 30, 2018	(359,836)

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The following table presents the quantitative information about the Group's Level 3 fair value measurements of investment as of June 30, 2019 and December 31, 2018, which utilized significant unobservable internally-developed inputs:

June 30, 2019	Valuation technique	Unobservable input	Range (weighted average)	Sensitivity of fair value to input
Warrants	Black-Scholes Model	Estimated time to exit Historical Volatility	6-24 months 75% - 350%	10% increase (decrease) in volatility would result in increase (decrease) in fair value by \$8,157
December 31, 2018	Valuation technique	Unobservable input	Range (weighted average)	Sensitivity of fair value to input
Warrants	Black-Scholes Model	Estimated time to exit Historical Volatility	12-30 months 73% - 188%	10% increase (decrease) in volatility would result in increase (decrease) in fair value by \$19,691

Warrants

As of June 30, 2019 and December 31, 2018, the volume of the Group's derivative activities based on their notional amount and number of contracts, categorized by primary underlying risk, are as follows:

Primary underlying risk	Long Exposure			
	June 30, 2019		December 31, 2018	
	Notional Amounts	Number of Warrants	Notional Amounts	Number of Warrants
Equity Price				
Warrants	\$ 481,794	2,257,682	\$ 218,270	2,257,682

The following table identifies the fair value amounts of derivative instruments included in the statement of financial condition as derivative contracts, categorized by primary underlying risk, at June 30, 2019 and December 31, 2018. The following table also identifies the net gain and loss amounts included in the statements of operations as net unrealized gain from derivative contracts, categorized by primary underlying risk, for the six months ended June 30, 2019 and 2018:

Primary underlying risk	June 30, 2019		December 31, 2018	
	Derivative assets	Derivative liabilities	Derivative assets	Derivative liabilities
Equity Price				
Warrants	\$ 425,916	\$ -	\$ 115,721	\$ -

Primary underlying risk	For the six months ended June 30,			
	2019		2018	
	Realized gain (loss)	Unrealized gain (loss)	Realized gain (loss)	Unrealized gain (loss)
Equity Price				
Warrants	\$ -	\$ 310,195	\$ -	\$ (359,844)

Non-marketable equity securities remeasured during the six months ended June 30, 2019 are classified within Level 3 in the fair value hierarchy because we estimate the value based on valuation methods using the observable transaction price at the transaction date and other unobservable inputs including volatility, rights, and obligations of the securities we hold.

The following is a summary of unrealized gains and losses recorded in other income (expense), net, and included as adjustments to the carrying value of non-marketable investments held as of June 30, 2019:

Upward adjustments	\$ 1,017,468
Total unrealized gain for non-marketable investments	\$ 1,017,468

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The following table summarizes the total carrying value of our non-marketable investments held as of June 30, 2019 including cumulative unrealized upward and downward adjustments made to the initial cost basis of the investments:

	June 30, 2019
Initial cost basis	\$ 6,094,712
Upward adjustments	1,017,468
Total carrying value at the end of the period	<u>\$ 7,112,180</u>

6. OTHER RECEIVABLES AND PREPAYMENTS

Other receivables and prepayments as of June 30, 2019 and December 31, 2018 consisted of:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Prepaid insurance	\$ 192,011	\$ 147,864
Prepaid service fee	100,871	75,224
Rental deposits	8,575	8,576
Prepaid rental expenses	48,345	46,948
Prepaid research and development expenses	417,413	41,614
Other receivables	119,735	109,435
Others	25,047	34,495
	<u>\$ 911,997</u>	<u>\$ 464,156</u>

7. DIGITAL CURRENCIES

The following table presents additional information about digital currencies:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Beginning balance	\$ -	\$ -
Purchase of digital currencies	200,000	-
Utilization of digital currencies	(94,852)	-
Realized gain on use of digital currencies	12,334	-
Ending balance	<u>\$ 117,482</u>	<u>\$ -</u>

8. PROPERTY, PLANT AND EQUIPMENT, NET

Property, plant and equipment as of June 30, 2019 and December 31, 2018 consisted of:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Building	\$ 1,488,396	\$ 1,488,396
Computer equipment	73,611	64,911
Furniture, fixture, and office and medical equipment	268,653	262,819
Leasehold improvements	665,546	664,713
Laboratory equipment	4,029,640	2,045,034
Motor vehicle	239,093	239,093
	<u>6,764,939</u>	<u>4,764,966</u>
Less: accumulated depreciation	987,282	504,364
Property, plant and equipment, net	<u>\$ 5,777,657</u>	<u>\$ 4,260,602</u>

Depreciation expenses for property, plant and equipment amounted to \$482,925 and \$124,245 for the six months ended June 30, 2019 and 2018, respectively.

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9. LONG-TERM PREPAYMENTS

Long-term prepayments as of June 30, 2019 and December 31, 2018 consisted of:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Rental deposits	\$ 132,043	\$ 132,043
Prepayments for equipment	1,916,527	3,285,135
	<u>\$ 2,048,570</u>	<u>\$ 3,417,178</u>

10. ACCOUNTS PAYABLE AND ACCRUED EXPENSES

Accounts payable and accrued expenses as of June 30, 2019 and December 31, 2018 consisted of:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Healthcare consultation service payable	\$ 29,870	\$ 40,139
Professional fees payable	58,630	178,117
Research and development expenses payable	162,319	398,899
Interest payable	8,802	223,802
Payables for leasehold improvement and equipment	26,779	73,864
Salaries payable	154,589	183,065
Deferred rent	55,856	58,810
Others	51,588	90,451
	<u>\$ 548,433</u>	<u>\$ 1,247,147</u>

11. INCOME TAXES

The Company and its subsidiaries file tax returns separately.

Income taxes

Cayman Islands: under the current laws of the Cayman Islands, the Company and its subsidiaries in the Cayman Islands are not subject to taxes on their income and capital gains.

Hong Kong: in accordance with the relevant tax laws and regulations of Hong Kong, a company registered in Hong Kong is subject to income taxes within Hong Kong at the applicable tax rate on taxable income. All the Hong Kong subsidiaries that are not entitled to any tax holiday were subject to income tax at a rate of 16.5%. The subsidiaries of the Group in Hong Kong did not have assessable profits that were derived Hong Kong during the six months ended June 30, 2019 and 2018. Therefore, no Hong Kong profit tax has been provided for in the periods presented.

United Kingdom: in accordance with the relevant tax laws and regulations of United Kingdom, a company registered in the United Kingdom is subject to income taxes within the United Kingdom at the applicable tax rate on taxable income. All the United Kingdom subsidiaries that are not entitled to any tax holiday were subject to income tax at a rate of 19%. The subsidiary of the Group in the United Kingdom did not have assessable profits that were derived from the United Kingdom during the six months ended June 30, 2019 and 2018. Therefore, no United Kingdom profit tax has been provided for in the periods presented.

On a semi-annually basis, the Group evaluates the realizability of deferred tax assets by jurisdiction and assesses the need for a valuation allowance. In assessing the realizability of deferred tax assets, the Company considers historical profitability, evaluation of scheduled reversals of deferred tax liabilities, projected future taxable income and tax-planning strategies. Valuation allowances have been provided on deferred tax assets where, based on all available evidence, it was considered more likely than not that some portion or all of the recorded deferred tax assets will not be realized in future periods. After consideration of all positive and negative evidence, the Company believes that as of June 30, 2019, it is more likely than not the deferred tax assets will not be realized.

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12. RELATED PARTY BALANCES AND TRANSACTIONS

The following is a list of a director and related parties to which the Group has transactions with:

- (a) Ian Huen, the Chief Executive Officer and Executive Director of the Group;
- (b) Darren Lui, the Executive Director of the Group;
- (c) Aenco Limited, an entity controlled by Ian Huen;
- (d) AENEAS CAPITAL LIMITED, an entity controlled by Ian Huen;
- (e) Aeneas Management Limited, an entity controlled by Ian Huen.
- (f) Jurchen Investment Corporation, the holding company and an entity controlled by Ian Huen.
- (g) Clark Cheng, the Executive Director of the Group
- (h) Sabrina Khan, the Chief Financial Officer of the Group

Amounts due from related parties

Amounts due from related parties consisted of the following as of June 30, 2019 and December 31, 2018:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Current		
AENEAS CAPITAL LIMITED	\$ -	\$ 169,051
Non-current		
Jurchen Investment Corporation	50,000	50,000
Total	\$ 50,000	\$ 50,000

Amounts due to related parties

Amounts due to related parties consisted of the following as of June 30, 2019 and December 31, 2018:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Ian Huen	\$ -	\$ 2,545
Darren Lui	2,732	-
Clark Cheng	-	8,893
Sabrina Khan	780	21,979
Total	\$ 3,512	\$ 33,417

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Related party transactions

Related party transactions consisted of the following for the six months ended June 30, 2019 and 2018:

	For the six months ended June 30,	
	2019 (Unaudited)	2018 (Unaudited)
Payments on behalf of the Group (Note I)		
- AENEAS CAPITAL LIMITED (d)	\$ 5,057	\$ -
- Aeneas Management Limited (e)	5,372	8,064
Expense reimbursement (Note I)		
- AENEAS CAPITAL LIMITED (d)	\$ 5,057	\$ 7,331
- Aeneas Management Limited (e)	5,372	8,064
Payments on behalf of related parties (Note II)		
- AENEAS CAPITAL LIMITED (d)	\$ -	\$ 22,933
Repayments from related parties (Note II)		
- AENEAS CAPITAL LIMITED (d)	\$ 169,051	\$ 330,005
Consultant, management and administrative fees (Note III)		
- AENEAS CAPITAL LIMITED (d)	\$ -	\$ 384,615
- Aenco Limited (c)	415,385	-
- Aeneas Management Limited (e)	347,692	-
Settlement of consultant, management and administrative fees (Note III)		
- Aenco Limited (c)	\$ 415,385	\$ -
- Aeneas Management Limited (e)	347,692	-
Rental expense (Note IV)		
- Jurchen Investment Corporation (f)	\$ 113,572	\$ 94,304
Settlement of rental expense (Note IV)		
- Jurchen Investment Corporation (f)	\$ 113,572	\$ 94,304

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Note I: AENEAS CAPITAL LIMITED has paid the audit fee and legal fee on behalf of the Group and received the expense reimbursement. The balances were non-interest bearing.

Aeneas Management Limited has paid the operation fee on behalf of the Group and received the expense reimbursement. The balances were non-interest bearing.

Note II: The Group has paid the expenses on behalf of AENEAS CAPITAL LIMITED, of which the whole amounts were non-interest bearing. There was no further payment on behalf transactions since April 2018.

Note III: AENEAS CAPITAL LIMITED provided certain management and administrative services to the Group. For the six months ended June 30, 2018, AENEAS CAPITAL LIMITED was entitled to receive a fixed amount of administrative fees of HKD500,000 (approximately \$64,103) per calendar month. On July 31, 2018, the agreement was mutually agreed to be terminated.

Aenco Limited provided certain information technology services to the Group. For the six months ended June 30, 2019, Aenco Limited was entitled to receive a fixed amount of services fees of HKD540,000 (approximately \$69,231) per calendar month. The agreement will expire on December 31, 2019.

Aeneas Management Limited provided certain documentation and administrative services to the Group. For the six months ended June 30, 2019, Aenco Limited was entitled to receive a fixed amount of services fees of HKD452,000 (approximately \$57,949) per calendar month. The agreement will expire on December 31, 2019.

Note IV: Jurchen Investment Corporation entered into a sub-tenancy agreement with a subsidiary of the Group for the rental arrangement of an office in Hong Kong. For the period February 1, 2018 through January 31, 2021, Jurchen Investment Corporation was entitled to receive a fixed amount of rental fee of HKD130,000 (approximately \$16,667) per calendar month.

On April 3, 2018, Aptorum Medical Limited issued 526 shares to Clark Cheng, decreasing the equity interest of the Company from 100% to 95%. On April 1, 2019, Aptorum Medical Limited further issued 112 shares to Clark Cheng in according to the appointment agreement, decreasing the equity interest of the Company from 95% to 94%.

In April 2018, the Group, AENEAS CAPITAL LIMITED, Aeneas Management Limited and Aeneas Group Limited entered into a net settlement agreement to offset the amount due from related parties against the amount due to related parties. Thereby, the Group is released from obligation for a total amount of \$164,973, netting off receivables of total amount of \$197,878 and collected remaining balance of \$32,905.

13. CONVERTIBLE DEBTS

Convertible bonds

On April 6, 2018, the Group entered into a subscription agreement (the "Bond Subscription Agreement") with Peace Range Limited ("Peace Range"). Pursuant to the Bond Subscription Agreement, the Group issued Peace Range a \$15,000,000 convertible bond (the "Bond" and the "Bond Offering") on April 25, 2018.

The Group completed its IPO on December 17, 2018. Pursuant to the terms of the Bond, 10% of the outstanding principal amount of the Bond was automatically converted into 119,217 Class A Ordinary Shares. Upon the automatic conversion, the contingency was effectively resolved, and the value of the 10% of the BCF of \$383,629 was recorded as additional interest expense with a corresponding increase to additional paid-in capital. The remaining BCF of \$3,452,657 was recorded as debt discount, which was amortized through the maturity of the convertible debts, with a corresponding increase to additional paid-in capital. For the year ended December 31, 2018, the interest amortization of the BCF was \$374,707.

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The following lists the components of the ending balance of convertible debts as of June 30, 2019 and December 31, 2018, respectively:

	June 30, 2019	December 31, 2018
	(Unaudited)	
Gross convertible debts	\$ -	\$ 13,500,000
Less: Discount on issuance cost	-	314,744
Discount on BCF	-	3,077,950
Convertible debts, net	<u>\$ -</u>	<u>\$ 10,107,306</u>

For the six months ended June 30, 2019 and 2018, the amortization of BCF and interest accretion of convertible debts were \$3,392,694 and \$186,763 respectively. The contractual interest for the six months ended June 30, 2019 and 2018 were \$342,333 and \$218,667 respectively

The repurchasing of convertible debts is considered an extinguishment and the difference between the repurchasing price of debt, and the net carrying amount of the extinguished debt and the intrinsic value of BCF is recognized on the condensed consolidated statements of operations. The intrinsic value of BCF at the extinguishment date decrease to additional paid-in capital. On April 24, 2019, the Group repurchased its convertible debts at \$13.6 million with carrying amount of \$13.5 million and the intrinsic value of BCF is \$1.3 million with a gain on extinguishment on convertible debts of \$1.2 million.

14. SHARE BASED COMPENSATION EXPENSES

Share option plan

A total of 5,500,000 Class A Ordinary Shares (subject to subsequent adjustments described more fully below) may be issued pursuant to awards under the 2017 Omnibus Incentive Plan (the "2017 Share Option Plan"). Subsequent adjustments include that on each January 1, starting with January 1, 2020, an additional number of shares equal to the lesser of (i) 2% of the outstanding number of Class A Ordinary Shares (on a fully diluted basis) on the immediate preceding December 31, and (ii) such lower number of Class A Ordinary Shares as may be determined by the board of directors, subject in all cases to adjustments as provided in Section 10 of the 2017 Share Option Plan. Awards will be made pursuant to agreements and may be subject to vesting and other restrictions as determined by the board of directors.

On March 15, 2019, the Company granted 218,610 share options to directors, employees, external consultants and advisors of the Group in accordance to the 2017 Share Option Plan with an exercise price of \$12.91.

A summary of the option activity as of June 30, 2019 and changes during the period is presented below:

Options granted to employees

	Number of share options	Weighted average exercise price \$	Remaining contractual term in years
Outstanding, January 1, 2019	-	-	-
Granted	218,610	12.91	12.31
Outstanding, June 30, 2019	<u>218,610</u>	<u>12.91</u>	<u>12.01</u>
Exercisable, June 30, 2019	<u>-</u>	<u>-</u>	<u>-</u>

APTORUM GROUP LIMITED
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
(Stated in U.S. Dollars)

Intrinsic value is calculated as the amount by which the current market value of a share of common stock exceeds the exercise price multiplied by the number of option. The aggregate intrinsic value of options outstanding as of June 30, 2019 was approximately \$2,669,000.

The fair value of each stock option award is estimated on the date of grant using the Black-Scholes option pricing model under the following assumptions.

	Date of grant
Expected volatility	95.02%-95.15%
Risk-free interest rate	2.46%-2.49%
Expected term from grant date (in years)	6.29-7.29
Dividend rate	-
Dilution factor	0.9962
Fair value	\$10.10-10.52

In connection with the grant of share options to employees and non-employees, the Group recorded share-based compensation charges of \$435,967 and \$157,839, respectively.

15. WARRANTS

On November 30, 2018 and December 17, 2018, the Company entered into several agreements with underwriter. In return for the underwriter's services, the Company issued an aggregate of 80,453 and 38,071 warrants to purchase the same number of the Company's ordinary shares, for the convertible debts and the IPO, respectively. The shares were fully vested upon the IPO completion date and the fair value of the warrants was \$659,697 and \$218,147, respectively, which was calculated using the Black-Scholes pricing model, with the following weighted-average assumptions.

The Group analyzed the warrants issued in the IPO and the convertible debts in accordance with ASC Topic 815 "Derivatives and Hedging". In accordance with ASC Topic 815, the Group determined that the warrants should not be considered index to its own stock, as the strike price of the warrants is dominated in a currency (USD) other than the primary economy environment currency of the Group (HKD). As a result, the warrants do not meet the scope exception of ASC Topic 815, therefore, should be accounted for as derivative liabilities and measure at fair value with changes in fair value be recorded in earnings in each reporting period.

All warrants were exercised on June 19, 2019 on a cashless basis. \$866,300 loss in changes in fair value of warrant liabilities was recorded in condensed consolidated statements of operations.

	June 30, 2019		December 31, 2018
Expected volatility	-	%	58.18%
Risk-free interest rate	-		2.820%-2.822%
Expected term from grant date (in years)	-		2.43
Dividend rate	-		-
Fair value	\$	-	\$ 4.60-9.48

Expected Volatility

The expected volatility used for the year ended December 31, 2018 is based upon the Company's peer group trading history.

Risk-Free Interest Rate

The risk-free interest rate assumption is based on U.S. Treasury instruments with a term consistent with the contractual term of the warrants issued for the year ended December 31, 2018.

Expected Term

The expected term of the warrants issued during the year ended December 31, 2018, represents the remaining contractual term of the warrants.

Dividend Yield

The Company has never declared or paid any cash dividends and does not plan to pay cash dividends in the foreseeable future, and therefore, used an expected dividend yield of zero in the valuation model.

APTORUM GROUP LIMITED
NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)
(Stated in U.S. Dollars)

The movement of the warrants for the six months ended June 30, 2019 is as follows:

	<u>Warrants</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Remaining Contractual Term in Years</u>
Outstanding, January 1, 2019	118,524	\$ 13.79	2.43
Exercised	118,524	\$ 13.79	1.96
Outstanding, June 30, 2019	<u>-</u>	<u>\$ -</u>	<u>-</u>

16. NET LOSS PER SHARE

The following table sets forth the computation of basic and diluted loss per share:

	<u>For the six months ended June 30,</u>	
	<u>2019 (Unaudited)</u>	<u>2018 (Unaudited)</u>
Numerator:		
Net loss attributable to Aptorum Group Limited	\$ (9,088,471)	\$ (5,488,372)
Denominator:		
Basic and diluted weighted average common shares outstanding	28,978,151	27,864,135
Basic and diluted loss per share	\$ (0.31)	\$ (0.20)

Basic loss per share is computed by dividing net loss attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding during the period. Diluted earnings per share reflects the potential dilution that could occur if securities or other contracts to issue ordinary shares were exercised or converted into ordinary shares. Potential dilutive securities are excluded from the calculation of diluted EPS in loss periods as their effect would be anti-dilutive.

17. SUBSEQUENT EVENTS

The Group has evaluated subsequent events through the date of issuance of the condensed consolidated financial statements, and except for the following events with material financial impact on the Group's condensed consolidated financial statements, no other subsequent event is identified that would have required adjustment or disclosure in the condensed consolidated financial statements.

On August 13, 2019, the Group entered into financing arrangements with Aeneas Group Limited, a related party, and Jurchen Investment Corporation, the ultimate parent of the Group, allowing the Group to access up to a total \$15.0 million in line of credit debt financing. The line of credit will mature on August 12, 2022 and the interest on the outstanding principal indebtedness will be at the rate of 8% per annum. As of the date of issuance of the condensed consolidated financial statements, the Company has drawn down \$0.4 million from this line of credit.

In July 2019, Smart Pharmaceutical Limited Partnership, ("SPLP"), a wholly owned subsidiary of the Group, transferred 100,000,000 Smart Pharma Token ("SMPT token") to Aenco Solutions Limited, a related party, in exchange of the service to deal with the token offering.

The SMPT token tokenizes rights to a portion of sales-based royalties, non-royalty sublicensing income and additional cash flow, derived from the subsequent commercialization of intellectual property rights of drug candidates discovered under our Smart-ACT™ platform. SMPT token is backed by SPLP's assets, including intellectual property rights of drug candidates created through the Smart-ACT™ platform and commercialization income. SPLP acts as the intellectual property holding company of Smart Pharma, and holds all title, rights and ownership interest of the intellectual property rights developed by Smart-ACT™. As of June 30, 2019 and through the date of issuance of the condensed consolidated financial statements, SPLP has no substantial assets and liabilities.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to “incorporate by reference” into this prospectus the information we file with the SEC. This means that we can disclose important information to you by referring you to those documents. Any statement contained in a document incorporated by reference in this prospectus shall be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained herein, or in any subsequently filed document, which also is incorporated by reference herein, modifies or supersedes such earlier statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

We hereby incorporate by reference into this prospectus the following documents that we have filed with the SEC under the Exchange Act:

- the Company’s Annual Report on [Form 20-F](#) and [Form 20 F/A](#) for the fiscal year ended December 31, 2018, filed with the SEC on April 15, 2019 and April 22, 2019, respectively;
- the Company’s Current Reports on Form 6-K, filed with the SEC on [November 15, 2019](#), [October 25, 2019](#), [September 26, 2019](#), [September 9, 2019](#), [August 14, 2019](#), [July 8, 2019](#), [May 31, 2019](#), [May 22, 2019](#), [April 24, 2019](#), [April 15, 2019](#); and,
- the description of our Class A Ordinary Shares contained in our Registration Statement on [Form 8-A](#) filed with the SEC on December 14, 2018, including any amendments and reports filed for the purpose of updating such description.

All documents that we file with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (and in the case of a Current Report on Form 6-K, so long as they state that they are incorporated by reference into this prospectus, and other than Current Reports on Form 6-K, or portions thereof, furnished under Form 6-K) (i) after the initial filing date of the registration statement of which this prospectus forms a part and prior to the effectiveness of such registration statement and (ii) after the date of this prospectus and prior to the termination of the offering shall be deemed to be incorporated by reference in this prospectus from the date of filing of the documents, unless we specifically provide otherwise. Information that we file with the SEC will automatically update and may replace information previously filed with the SEC. To the extent that any information contained in any Current Report on Form 6-K or any exhibit thereto, was or is furnished to, rather than filed with the SEC, such information or exhibit is specifically not incorporated by reference.

Upon request, we will provide, without charge, to each person who receives this prospectus, a copy of any or all of the documents incorporated by reference (other than exhibits to the documents that are not specifically incorporated by reference in the documents). Please direct written or oral requests for copies to us at 17th Floor, Guangdong Investment Tower, 148 Connaught Road Central, Hong Kong, Attention: Sabrina Khan, Chief Financial Officer, +852 2117 6611.

WHERE YOU CAN FIND MORE INFORMATION

As permitted by SEC rules, this prospectus omits certain information and exhibits that are included in the registration statement of which this prospectus forms a part. Since this prospectus may not contain all of the information that you may find important, you should review the full text of these documents. If we have filed a contract, agreement or other document as an exhibit to the registration statement of which this prospectus forms a part, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement in this prospectus, including statements incorporated by reference as discussed above, regarding a contract, agreement or other document is qualified in its entirety by reference to the actual document.

We are subject to the information reporting requirements of the Exchange Act that are applicable to foreign private issuers, and, in accordance with these requirements, we file annual and current reports and other information with the SEC. You may inspect, read (without charge) and copy the reports and other information we file with the SEC at the SEC’s Public Reference Room located at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC also maintains an internet website at [www.sec.gov](#) that contains our filed reports and other information that we file electronically with the SEC.

We maintain a corporate website at [www.aporumgroup.com](#). Information contained on, or that can be accessed through, our website does not constitute a part of this prospectus.

ENFORCEABILITY OF CIVIL LIABILITIES

We are incorporated under the laws of the Cayman Islands as an exempted company with limited liability. We incorporated in the Cayman Islands because of certain benefits associated with being a Cayman Islands corporation, such as political and economic stability, an effective judicial system, a favorable tax system, the absence of foreign exchange control or currency restrictions and the availability of professional and support services. However, the Cayman Islands have a less developed body of securities laws that provide significantly less protection to investors as compared to the securities laws of the United States. In addition, Cayman Islands companies may not have standing to sue before the federal courts of the United States.

All of our assets are located in Hong Kong. In addition, some of our directors and officers are residents of jurisdictions other than the United States and all or a substantial portion of their assets are located outside the United States. As a result, it may be difficult for investors to effect service of process within the United States upon us or our directors and officers, or to enforce against us or them judgments obtained in United States courts, including judgments predicated upon the civil liability provisions of the securities laws of the United States or any state in the United States.

According to our local Cayman Islands' counsel, there is uncertainty with regard to Cayman Islands law relating to whether a judgment obtained from the United States or Hong Kong courts under civil liability provisions of the securities laws will be determined by the courts of the Cayman Islands as penal or punitive in nature. If such a determination is made, the courts of the Cayman Islands will not recognize or enforce the judgment against a Cayman Islands' company. The courts of the Cayman Islands in the past determined that disgorgement proceedings brought at the instance of the Securities and Exchange Commission are penal or punitive in nature and such judgments would not be enforceable in the Cayman Islands. Other civil liability provisions of the securities laws may be characterized as remedial, and therefore enforceable but the Cayman Islands' Courts have not yet ruled in this regard. Our Cayman Islands' counsel has further advised us that a final and conclusive judgment in the federal or state courts of the United States under which a sum of money is payable other than a sum payable in respect of taxes, fines, penalties or similar charges, may be subject to enforcement proceedings as a debt in the courts of the Cayman Islands.

As of the date hereof, no treaty or other form of reciprocity exists between the Cayman Islands and Hong Kong governing the recognition and enforcement of judgments.

Cayman Islands' counsel further advised that although there is no statutory enforcement in the Cayman Islands of judgments obtained in the United States or Hong Kong, a judgment obtained in such jurisdictions will be recognized and enforced in the courts of the Cayman Islands at common law, without any re-examination of the merits of the underlying dispute, by an action commenced on the foreign judgment debt in the Grand Court of the Cayman Islands, provided such judgment (1) is given by a foreign court of competent jurisdiction, (2) imposes on the judgment debtor a liability to pay a liquidated sum for which the judgment has been given, (3) is final, (4) is not in respect of taxes, a fine or a penalty, and (5) was not obtained in a manner and is of a kind the enforcement of which is contrary to natural justice or the public policy of the Cayman Islands.

INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been informed that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

APTORUM GROUP LIMITED

\$100,000,000
Class A Ordinary Shares,
Preferred Shares,
Warrants,
Units and
Debt Securities

PROSPECTUS

January 6, 2020

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 8. Indemnification of Directors and Officers

Cayman Islands law does not limit the extent to which a company's memorandum and articles of association may provide for indemnification of officers and directors, except to the extent any such provision may be held by the Cayman Islands courts to be contrary to public policy, such as to provide indemnification against civil fraud or the consequences of committing a crime. Our Memorandum and Articles require us to indemnify our officers and directors for actions, proceedings, claims, losses, damages, costs, liabilities and expenses ("Indemnified Losses") incurred in their capacities as such unless such Indemnified Losses arise from dishonesty of such directors or officers. This standard of conduct is generally the same as permitted under the Delaware General Corporation Law for a Delaware corporation.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers or persons controlling us under the foregoing provisions, we have been informed that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

Item 9. Exhibits

<u>Exhibit No.</u>	<u>Description</u>
1.1	Form of Underwriting Agreement**
4.1	Specimen Ordinary Share Certificate*
4.2	Form of Preferred Share Certificate**
4.3	Form of Warrant**
4.4	Form of Warrant Agreement**
4.5	Form of Unit Agreement**
4.6	Form of indenture with respect to senior debt securities, to be entered into between registrant and a trustee acceptable to the registrant, if any.
4.7	Form of indenture with respect to subordinated debt securities, to be entered into between registrant and a trustee acceptable to the registrant, if any.
4.8	Form of debt securities, if any.**
5.1	Opinion of Campbells
23.1	Consent of Marcum Bernstein & Pinchuk LLP
23.2	Consent of Campbells (included in Exhibit 5.1)
25.1	Statement of Eligibility of trustee on Form T-1 under the Trust Indenture Act of 1939 under the Senior Indenture+
25.2	Statement of Eligibility of trustee on Form T-1 under the Trust Indenture Act of 1939 under the Subordinated Indenture+
99.1	Code of Business Ethics*

** To be filed by amendment or as an exhibit to a filing with the SEC under Section 13 or 15(d) of the Securities Exchange Act of 1934 and incorporated by reference in connection with the offering of securities to the extent required for any such offering.

* Incorporated by reference to our Registration Statement Filed on Form F-1 on September 5, 2018.

+ To be filed separately pursuant to Rule 305(b)(2) of the Trust Indenture Act.

Item 10 Undertakings

(a) The undersigned registrant hereby undertakes:

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

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

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

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

provided, however, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Securities and Exchange Commission by the registrant pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b).

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

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

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

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

- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities: 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.
- (b) That, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form F-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Hong Kong, the Special Administrative Region of the People's Republic of China, on January 6, 2020.

APTORUM GROUP LIMITED

By: /s/ Ian Huen
Name: Ian Huen
Title: Chief Executive Officer and Executive Director
(Principal Executive Officer)

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

<u>Name</u>	<u>Position</u>	<u>Date</u>
<u>/s/ Ian Huen</u> Ian Huen	Chief Executive Officer (principal executive director) and Executive Director	January 6, 2020
<u>/s/ Sabrina Kahn</u> Sabrina Kahn	Chief Financial Officer (principal financial officer and principal accounting officer)	January 6, 2020
<u>/s/ Darren Lui</u> Darren Lui	President and Executive Director	January 6, 2020
<u>/s/ Clark Cheng</u> Clark Cheng	Chief Medical Officer and Executive Director	January 6, 2020
<u>/s/ Douglas Arner</u> Douglas Arner	Director	January 6, 2020
<u>/s/ Charles Bathurst</u> Charles Bathurst	Director	January 6, 2020
<u>/s/ Mirko Scherer</u> Mirko Scherer	Director	January 6, 2020
<u>/s/ Justin Wu</u> Justin Wu	Director	January 6, 2020

SIGNATURE OF AUTHORIZED REPRESENTATIVE IN THE UNITED STATES

Pursuant to the requirements of the Securities Act of 1933, the Registrant's duly authorized representative has signed this registration statement on Form F-3 in the City of New York, State of New York, on January 6, 2020.

Name: Louis Taubman

Title: Authorized Representative in the United States

APTORUM GROUP LIMITED
Issuer

AND

[TRUSTEE]

Trustee

INDENTURE

Dated as of [●], 20[●]

Senior Debt Securities

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

INDENTURE

INDENTURE, dated as of [●], 20[●], among Aptorum Group Limited, a Cayman Islands exempted company with limited liability whose principal place of business is in Hong Kong and, subject to the provisions of Article Ten, shall also include its successors and assigns (the “Company”), and [TRUSTEE], as trustee (the “Trustee”).

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

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

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

NOW, THEREFORE, in consideration of the premises and the purchase of the Securities by the holders thereof, it is mutually covenanted and agreed as follows for the equal and ratable benefit of the holders of Securities:

ARTICLE 1

DEFINITIONS

Section 1.01 Definitions of Terms.

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

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

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

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

“**Board Resolution**” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification.

“**Business Day**” means, with respect to any series of Securities, any day other than a day on which federal or state banking institutions in the Borough of Manhattan, the City of New York, or in the city of the Corporate Trust Office of the Trustee, are authorized or obligated by law, executive order or regulation to close.

“**Certificate**” means a certificate signed by any Officer. The Certificate need not comply with the provisions of Section 13.07.

“**Corporate Trust Office**” means the office of the Trustee at which, at any particular time, its corporate trust business shall be principally administered, which office at the date hereof is located at .

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

“**Default**” means any event, act or condition that with notice or lapse of time, or both, would constitute an Event of Default.

“**Depository**” means, with respect to Securities of any series for which the Company shall determine that such Securities will be issued as a Global Security, The Depository Trust Company, New York, New York, another clearing agency, or any successor registered as a clearing agency under the Securities and Exchange Act of 1934, as amended (the “Exchange Act”), or other applicable statute or regulation, which, in each case, shall be designated by the Company pursuant to either Section 2.01 or 2.11.

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

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

“**Governmental Obligations**” means securities that are (a) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (b) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America that, in either case, are not callable or redeemable at the option of the issuer thereof at any time prior to the stated maturity of the Securities, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such Governmental Obligation or a specific payment of principal of or interest on any such Governmental Obligation held by such custodian for the account of the holder of such depository receipt; provided, however, that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Governmental Obligation or the specific payment of principal of or interest on the Governmental Obligation evidenced by such depository receipt.

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

“*Indenture*” means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into in accordance with the terms hereof.

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

“*Officer*” means, with respect to the Company, the chairman of the Board of Directors, a chief executive officer, a president, a chief financial officer, chief operating officer, any executive vice president, any senior vice president, any vice president, the treasurer or any assistant treasurer, the controller or any assistant controller or the secretary or any assistant secretary.

“*Officers’ Certificate*” means a certificate signed by any two Officers. Each such certificate shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

“*Opinion of Counsel*” means an opinion in writing subject to customary exceptions of legal counsel, who may be an employee of or counsel for the Company, that is delivered to the Trustee in accordance with the terms hereof. Each such opinion shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

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

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

“Predecessor Security” of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 2.07 in lieu of a lost, destroyed or stolen Security shall be deemed to evidence the same debt as the lost, destroyed or stolen Security.

“Responsible Officer” when used with respect to the Trustee means the chairman of its board of directors, the chief executive officer, the president, any vice president, the secretary, the treasurer, any trust officer, any corporate trust officer or any other officer or assistant officer of the Trustee customarily performing functions similar to those performed by the Persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of his or her knowledge of and familiarity with the particular subject.

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

“Securityholder”, “holder of Securities”, “registered holder”, or other similar term, means the Person or Persons in whose name or names a particular Security shall be registered on the books of the Company kept for that purpose in accordance with the terms of this Indenture.

“Security Register” and **“Security Registrar”** shall have the meanings as set forth in Section 2.05.

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

“Trustee” means , and, subject to the provisions of Article Seven, shall also include its successors and assigns, and, if at any time there is more than one Person acting in such capacity hereunder, “Trustee” shall mean each such Person. The term “Trustee” as used with respect to a particular series of the Securities shall mean the trustee with respect to that series.

“Trust Indenture Act” means the Trust Indenture Act of 1939, as amended.

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

ARTICLE 2

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

Section 2.01 Designation and Terms of Securities.

(a) The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series up to the aggregate principal amount of Securities of that series from time to time authorized by or pursuant to a Board Resolution or pursuant to one or more indentures supplemental hereto. Prior to the initial issuance of Securities of any series, there shall be established in or pursuant to a Board Resolution, and set forth in an Officers' Certificate, or established in one or more indentures supplemental hereto:

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

(2) any limit upon the aggregate principal amount of the Securities of that series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of that series);

(3) the date or dates on which the principal of the Securities of the series is payable, any original issue discount that may apply to the Securities of that series upon their issuance, the principal amount due at maturity, and the place(s) of payment;

(4) the rate or rates at which the Securities of the series shall bear interest or the manner of calculation of such rate or rates, if any;

(5) the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest will be payable or the manner of determination of such Interest Payment Dates, the place(s) of payment, and the record date for the determination of holders to whom interest is payable on any such Interest Payment Dates or the manner of determination of such record dates;

(6) the right, if any, to extend the interest payment periods and the duration of such extension;

(7) the period or periods within which, the price or prices at which and the terms and conditions upon which Securities of the series may be redeemed, in whole or in part, at the option of the Company;

(8) the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund, mandatory redemption, or analogous provisions (including payments made in cash in satisfaction of future sinking fund obligations) or at the option of a holder thereof and the period or periods within which, the price or prices at which, and the terms and conditions upon which, Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

(9) the form of the Securities of the series including the form of the Certificate of Authentication for such series;

(10) if other than denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, the denominations in which the Securities of the series shall be issuable;

(11) any and all other terms (including terms, to the extent applicable, relating to any auction or remarketing of the Securities of that series and any security for the obligations of the Company with respect to such Securities) with respect to such series (which terms shall not be inconsistent with the terms of this Indenture, as amended by any supplemental indenture) including any terms which may be required by or advisable under United States laws or regulations or advisable in connection with the marketing of Securities of that series;

(12) whether the Securities are issuable as a Global Security and, in such case, the terms and the identity of the Depositary for such series;

(13) whether the Securities will be convertible into or exchangeable for ordinary shares or other securities of the Company or any other Person and, if so, the terms and conditions upon which such Securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at the Company's option or the holders' option) conversion or exchange features, and the applicable conversion or exchange period;

(14) if other than the principal amount thereof, the portion of the principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.01;

(15) any additional or different Events of Default or restrictive covenants (which may include, among other restrictions, restrictions on the Company's ability or the ability of the Company's Subsidiaries to: incur additional indebtedness; issue additional securities; create liens; pay dividends or make distributions in respect of their capital shares; redeem capital shares; place restrictions on such Subsidiaries placing restrictions on their ability to pay dividends, make distributions or transfer assets; make investments or other restricted payments; sell or otherwise dispose of assets; enter into sale-leaseback transactions; engage in transactions with shareholders and affiliates; issue or sell shares of their Subsidiaries; or effect a consolidation or merger) or financial covenants (which may include, among other financial covenants, financial covenants that require the Company and its Subsidiaries to maintain specified interest coverage, fixed charge, cash flow-based or asset-based ratios) provided for with respect to the Securities of the series;

(16) if other than dollars, the coin or currency in which the Securities of the series are denominated (including, but not limited to, foreign currency);

(17) the terms and conditions, if any, upon which the Company shall pay amounts in addition to the stated interest, premium, if any and principal amounts of the Securities of the series to any Securityholder that is not a “United States person” for federal tax purposes; and

(18) any restrictions on transfer, sale or assignment of the Securities of the series.

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

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

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

Section 2.02 Form of Securities and Trustee’s Certificate.

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

Section 2.03 Denominations: Provisions for Payment.

The Securities shall be issuable as registered Securities and in the denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, subject to Section 2.01(a)(10). The Securities of a particular series shall bear interest payable on the dates and at the rate specified with respect to that series. Subject to Section 2.01(a)(16), the principal of and the interest on the Securities of any series, as well as any premium thereon in case of redemption thereof prior to maturity, shall be payable in the coin or currency of the United States of America that at the time is legal tender for public and private debt, at the office or agency of the Company maintained for that purpose in the Borough of Manhattan, the City and State of New York. Each Security shall be dated the date of its authentication. Interest on the Securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

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

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

(1) The Company may make payment of any Defaulted Interest on Securities to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered at the close of business on a special record date for the payment of such Defaulted Interest, which shall be fixed in the following manner: the Company shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security and the date of the proposed payment, and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall not be more than 15 nor less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such special record date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the special record date therefor to be mailed, first class postage prepaid, to each Securityholder at his or her address as it appears in the Security Register (as hereinafter defined), not less than 10 days prior to such special record date. Notice of the proposed payment of such Defaulted Interest and the special record date therefor having been mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered on such special record date.

(2) The Company may make payment of any Defaulted Interest on any Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

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

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

Section 2.04 Execution and Authentication.

The Securities shall be signed on behalf of the Company by one of its Officers. Signatures may be in the form of a manual or facsimile signature.

The Company may use the facsimile signature of any Person who shall have been an Officer, notwithstanding the fact that at the time the Securities shall be authenticated and delivered or disposed of such Person shall have ceased to be such an officer of the Company. The Securities may contain such notations, legends or endorsements required by law, stock exchange rule or usage. Each Security shall be dated the date of its authentication by the Trustee.

A Security shall not be valid until authenticated manually by an authorized signatory of the Trustee, or by an Authenticating Agent. Such signature shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the holder is entitled to the benefits of this Indenture. At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a written order of the Company for the authentication and delivery of such Securities, signed by an Officer, and the Trustee in accordance with such written order shall authenticate and deliver such Securities.

In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities, the Trustee shall be entitled to receive, and (subject to Section 7.01) shall be fully protected in relying upon, an Opinion of Counsel stating that the form and terms thereof have been established in conformity with the provisions of this Indenture.

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

Section 2.05 Registration of Transfer and Exchange.

(a) Securities of any series may be exchanged upon presentation thereof at the office or agency of the Company designated for such purpose in the Borough of Manhattan, the City and State of New York, for other Securities of such series of authorized denominations, and for a like aggregate principal amount, upon payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, all as provided in this Section. In respect of any Securities so surrendered for exchange, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in exchange therefor the Security or Securities of the same series that the Securityholder making the exchange shall be entitled to receive, bearing numbers not contemporaneously outstanding.

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

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

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

(c) Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and set forth in an Officers' Certificate, or established in one or more indentures supplemental to this Indenture, no service charge shall be made for any exchange or registration of transfer of Securities, or issue of new Securities in case of partial redemption of any series, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, other than exchanges pursuant to Section 2.06, Section 3.03(b) and Section 9.04 not involving any transfer.

(d) The Company shall not be required (i) to issue, exchange or register the transfer of any Securities during a period beginning at the opening of business 15 days before the day of the mailing of a notice of redemption of less than all the Outstanding Securities of the same series and ending at the close of business on the day of such mailing, nor (ii) to register the transfer of or exchange any Securities of any series or portions thereof called for redemption, other than the unredeemed portion of any such Securities being redeemed in part. The provisions of this Section 2.05 are, with respect to any Global Security, subject to Section 2.11 hereof.

Section 2.06 Temporary Securities.

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

Section 2.07 Mutilated, Destroyed, Lost or Stolen Securities.

In case any temporary or definitive Security shall become mutilated or be destroyed, lost or stolen, the Company (subject to the next succeeding sentence) shall execute, and upon the Company's request the Trustee (subject as aforesaid) shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substituted Security shall furnish to the Company and the Trustee such security or indemnity as may be required by them to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company and the Trustee evidence to their satisfaction of the destruction, loss or theft of the applicant's Security and of the ownership thereof. The Trustee may authenticate any such substituted Security and deliver the same upon the written request or authorization of any officer of the Company. Upon the issuance of any substituted Security, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith.

In case any Security that has matured or is about to mature shall become mutilated or be destroyed, lost or stolen, the Company may, instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Security) if the applicant for such payment shall furnish to the Company and the Trustee such security or indemnity as they may require to save them harmless, and, in case of destruction, loss or theft, evidence to the satisfaction of the Company and the Trustee of the destruction, loss or theft of such Security and of the ownership thereof.

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

Section 2.08 Cancellation.

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

Section 2.09 Benefits of Indenture.

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

Section 2.10 Authenticating Agent.

So long as any of the Securities of any series remain Outstanding there may be an Authenticating Agent for any or all such series of Securities which the Trustee shall have the right to appoint. Said Authenticating Agent shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon exchange, transfer or partial redemption thereof, and Securities so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. All references in this Indenture to the authentication of Securities by the Trustee shall be deemed to include authentication by an Authenticating Agent for such series. Each Authenticating Agent shall be acceptable to the Company and shall be a corporation that has a combined capital and surplus, as most recently reported or determined by it, sufficient under the laws of any jurisdiction under which it is organized or in which it is doing business to conduct a trust business, and that is otherwise authorized under such laws to conduct such business and is subject to supervision or examination by federal or state authorities. If at any time any Authenticating Agent shall cease to be eligible in accordance with these provisions, it shall resign immediately.

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

Section 2.11 Global Securities.

(a) If the Company shall establish pursuant to Section 2.01 that the Securities of a particular series are to be issued as a Global Security, then the Company shall execute and the Trustee shall, in accordance with Section 2.04, authenticate and deliver, a Global Security that (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, all of the Outstanding Securities of such series, (ii) shall be registered in the name of the Depository or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction and (iv) shall bear a legend substantially to the following effect: "Except as otherwise provided in Section 2.11 of the Indenture, this Security may be transferred, in whole but not in part, only to another nominee of the Depository or to a successor Depository or to a nominee of such successor Depository."

(b) Notwithstanding the provisions of Section 2.05, the Global Security of a series may be transferred, in whole but not in part and in the manner provided in Section 2.05, only to another nominee of the Depository for such series, or to a successor Depository for such series selected or approved by the Company or to a nominee of such successor Depository.

(c) If at any time the Depository for a series of the Securities notifies the Company that it is unwilling or unable to continue as Depository for such series or if at any time the Depository for such series shall no longer be registered or in good standing under the Exchange Act, or other applicable statute or regulation, and a successor Depository for such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such condition, as the case may be, or if an Event of Default has occurred and is continuing and the Company has received a request from the Depository, this Section 2.11 shall no longer be applicable to the Securities of such series and the Company will execute, and subject to Section 2.04, the Trustee will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. In addition, the Company may at any time determine that the Securities of any series shall no longer be represented by a Global Security and that the provisions of this Section 2.11 shall no longer apply to the Securities of such series. In such event the Company will execute and, subject to Section 2.04, the Trustee, upon receipt of an Officers' Certificate evidencing such determination by the Company, will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. Upon the exchange of the Global Security for such Securities in definitive registered form without coupons, in authorized denominations, the Global Security shall be canceled by the Trustee. Such Securities in definitive registered form issued in exchange for the Global Security pursuant to this Section 2.11(c) shall be registered in such names and in such authorized denominations as the Depository, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. The Trustee shall deliver such Securities to the Depository for delivery to the Persons in whose names such Securities are so registered.

ARTICLE 3

REDEMPTION OF SECURITIES AND SINKING FUND PROVISIONS

Section 3.01 Redemption.

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

Section 3.02 Notice of Redemption.

(a) In case the Company shall desire to exercise such right to redeem all or, as the case may be, a portion of the Securities of any series in accordance with any right the Company reserved for itself to do so pursuant to Section 2.01 hereof, the Company shall, or shall cause the Trustee to, give notice of such redemption to holders of the Securities of such series to be redeemed by mailing, first class postage prepaid, a notice of such redemption not less than 30 days and not more than 90 days before the date fixed for redemption of that series to such holders at their last addresses as they shall appear upon the Security Register, unless a shorter period is specified in the Securities to be redeemed. Any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the registered holder receives the notice. In any case, failure duly to give such notice to the holder of any Security of any series designated for redemption in whole or in part, or any defect in the notice, shall not affect the validity of the proceedings for the redemption of any other Securities of such series or any other series. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officers' Certificate evidencing compliance with any such restriction.

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

In case any Security is to be redeemed in part only, the notice that relates to such Security shall state the portion of the principal amount thereof to be redeemed, and shall state that on and after the redemption date, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

(b) If less than all the Securities of a series are to be redeemed, the Company shall give the Trustee at least 45 days' notice (unless a shorter notice shall be satisfactory to the Trustee) in advance of the date fixed for redemption as to the aggregate principal amount of Securities of the series to be redeemed, and thereupon the Trustee shall select, by lot or in such other manner as it shall deem appropriate and fair in its discretion and that may provide for the selection of a portion or portions (equal to one thousand U.S. dollars (\$1,000) or any integral multiple thereof) of the principal amount of such Securities of a denomination larger than \$1,000, the Securities to be redeemed and shall thereafter promptly notify the Company in writing of the numbers of the Securities to be redeemed, in whole or in part. The Company may, if and whenever it shall so elect, by delivery of instructions signed on its behalf by an Officer, instruct the Trustee or any paying agent to call all or any part of the Securities of a particular series for redemption and to give notice of redemption in the manner set forth in this Section, such notice to be in the name of the Company or its own name as the Trustee or such paying agent may deem advisable. In any case in which notice of redemption is to be given by the Trustee or any such paying agent, the Company shall deliver or cause to be delivered to, or permit to remain with, the Trustee or such paying agent, as the case may be, such Security Register, transfer books or other records, or suitable copies or extracts therefrom, sufficient to enable the Trustee or such paying agent to give any notice by mail that may be required under the provisions of this Section.

Section 3.03 Payment Upon Redemption.

(a) If the giving of notice of redemption shall have been completed as above provided, the Securities or portions of Securities of the series to be redeemed specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption and interest on such Securities or portions of Securities shall cease to accrue on and after the date fixed for redemption, unless the Company shall default in the payment of such redemption price and accrued interest with respect to any such Security or portion thereof. On presentation and surrender of such Securities on or after the date fixed for redemption at the place of payment specified in the notice, said Securities shall be paid and redeemed at the applicable redemption price for such series, together with interest accrued thereon to the date fixed for redemption (but if the date fixed for redemption is an interest payment date, the interest installment payable on such date shall be payable to the registered holder at the close of business on the applicable record date pursuant to Section 2.03).

(b) Upon presentation of any Security of such series that is to be redeemed in part only, the Company shall execute and the Trustee shall authenticate and the office or agency where the Security is presented shall deliver to the holder thereof, at the expense of the Company, a new Security of the same series of authorized denominations in principal amount equal to the unredeemed portion of the Security so presented.

Section 3.04 Sinking Fund.

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

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a “mandatory sinking fund payment,” and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an “optional sinking fund payment”. If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 3.05. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

Section 3.05 Satisfaction of Sinking Fund Payments with Securities.

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

Section 3.06 Redemption of Securities for Sinking Fund.

Not less than 45 days prior to each sinking fund payment date for any series of Securities (unless a shorter period shall be satisfactory to the Trustee), the Company will deliver to the Trustee an Officers’ Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of the series, the portion thereof, if any, that is to be satisfied by delivering and crediting Securities of that series pursuant to Section 3.05 and the basis for such credit and will, together with such Officers’ Certificate, deliver to the Trustee any Securities to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 3.02 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 3.02. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 3.03.

ARTICLE 4

COVENANTS

Section 4.01 Payment of Principal, Premium and Interest.

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

Section 4.02 Maintenance of Office or Agency.

So long as any series of the Securities remain Outstanding, the Company agrees to maintain an office or agency in the Borough of Manhattan, the City and State of New York, with respect to each such series and at such other location or locations as may be designated as provided in this Section 4.02, where (i) Securities of that series may be presented for payment, (ii) Securities of that series may be presented as herein above authorized for registration of transfer and exchange, and (iii) notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be given or served, such designation to continue with respect to such office or agency until the Company shall, by written notice signed by any officer authorized to sign an Officers' Certificate and delivered to the Trustee, designate some other office or agency for such purposes or any of them. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, notices and demands may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations, notices and demands. The Company initially appoints the Corporate Trust Office of the Trustee located in the Borough of Manhattan, the City of New York as its paying agent with respect to the Securities.

Section 4.03 Paying Agents.

(a) If the Company shall appoint one or more paying agents for all or any series of the Securities, other than the Trustee, the Company will cause each such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:

(1) that it will hold all sums held by it as such agent for the payment of the principal of (and premium, if any) or interest on the Securities of that series (whether such sums have been paid to it by the Company or by any other obligor of such Securities) in trust for the benefit of the Persons entitled thereto;

(2) that it will give the Trustee notice of any failure by the Company (or by any other obligor of such Securities) to make any payment of the principal of (and premium, if any) or interest on the Securities of that series when the same shall be due and payable;

(3) that it will, at any time during the continuance of any failure referred to in the preceding paragraph (a)(2) above, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent; and

(4) that it will perform all other duties of paying agent as set forth in this Indenture.

(b) If the Company shall act as its own paying agent with respect to any series of the Securities, it will on or before each due date of the principal of (and premium, if any) or interest on Securities of that series, set aside, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay such principal (and premium, if any) or interest so becoming due on Securities of that series until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of such action, or any failure (by it or any other obligor on such Securities) to take such action. Whenever the Company shall have one or more paying agents for any series of Securities, it will, prior to each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with the paying agent a sum sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of this action or failure so to act.

(c) Notwithstanding anything in this Section to the contrary, (i) the agreement to hold sums in trust as provided in this Section is subject to the provisions of Section 11.05, and (ii) the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or direct any paying agent to pay, to the Trustee all sums held in trust by the Company or such paying agent, such sums to be held by the Trustee upon the same terms and conditions as those upon which such sums were held by the Company or such paying agent; and, upon such payment by the Company or any paying agent to the Trustee, the Company or such paying agent shall be released from all further liability with respect to such money.

Section 4.04 Appointment to Fill Vacancy in Office of Trustee.

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

Section 4.05 Compliance with Consolidation Provisions.

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

ARTICLE 5

SECURITYHOLDERS' LISTS AND REPORTS BY THE COMPANY AND THE TRUSTEE

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

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

Section 5.02 Preservation Of Information; Communications With Securityholders.

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Securities contained in the most recent list furnished to it as provided in Section 5.01 and as to the names and addresses of holders of Securities received by the Trustee in its capacity as Security Registrar (if acting in such capacity).

(b) The Trustee may destroy any list furnished to it as provided in Section 5.01 upon receipt of a new list so furnished.

(c) Securityholders may communicate as provided in Section 312(b) of the Trust Indenture Act with other Securityholders with respect to their rights under this Indenture or under the Securities, and, in connection with any such communications, the Trustee shall satisfy its obligations under Section 312(b) of the Trust Indenture Act in accordance with the provisions of Section 312(b) of the Trust Indenture Act.

Section 5.03 Reports by the Company.

The Company covenants and agrees to provide a copy to the Trustee, after the Company files the same with the Securities and Exchange 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 Securities and Exchange Commission may from time to time by rules and regulations prescribe) that the Company files with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; provided, however, the Company shall not be required to deliver to the Trustee any materials for which the Company has sought and received confidential treatment by the SEC. The Company shall also comply with the requirements of Section 314 of the Trust Indenture Act, but only to the extent then applicable to the Company.

Section 5.04 Reports by the Trustee.

(a) On or before July 1 in each year in which any of the Securities are Outstanding, the Trustee shall transmit by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register, a brief report dated as of the preceding May 1, if and to the extent required under Section 313(a) of the Trust Indenture Act.

(b) The Trustee shall comply with Section 313(b) and 313(c) of the Trust Indenture Act.

(c) A copy of each such report shall, at the time of such transmission to Securityholders, be filed by the Trustee with the Company, with each securities exchange upon which any Securities are listed (if so listed) and also with the Securities and Exchange Commission. The Company agrees to notify the Trustee when any Securities become listed on any securities exchange.

ARTICLE 6

REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

Section 6.01 Events of Default.

(a) Whenever used herein with respect to Securities of a particular series, "Event of Default" means any one or more of the following events that has occurred and is continuing:

(1) the Company defaults in the payment of any installment of interest upon any of the Securities of that series, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by the Company in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of interest for this purpose;

(2) the Company defaults in the payment of the principal of (or premium, if any, on) any of the Securities of that series as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to that series and such default continues for a period of 90 days; provided, however, that a valid extension of the maturity of such Securities in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of principal or premium, if any;

(3) the Company fails to observe or perform any other of its covenants or agreements with respect to that series contained in this Indenture or otherwise established with respect to that series of Securities pursuant to Section 2.01 hereof (other than a covenant or agreement that has been expressly included in this Indenture solely for the benefit of one or more series of Securities other than such series) for a period of 90 days after the date on which written notice of such failure, requiring the same to be remedied and stating that such notice is a "Notice of Default" hereunder, shall have been given to the Company by the Trustee, by registered or certified mail, or to the Company and the Trustee by the holders of at least 25% in principal amount of the Securities of that series at the time Outstanding;

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

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

(b) In each and every such case (other than an Event of Default specified in clause (4) or clause (5) above), unless the principal of all the Securities of that series shall have already become due and payable, either the Trustee or the holders of not less than 25% in aggregate principal amount of the Securities of that series then Outstanding hereunder, by notice in writing to the Company (and to the Trustee if given by such Securityholders), may declare the principal of (and premium, if any, on) and accrued and unpaid interest on all the Securities of that series to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable. If an Event of Default specified in clause (4) or clause (5) above occurs, the principal of and accrued and unpaid interest on all the Securities of that series shall automatically be immediately due and payable without any declaration or other act on the part of the Trustee or the holders of the Securities.

(c) At any time after the principal of (and premium, if any, on) and accrued and unpaid interest on the Securities of that series shall have been so declared due and payable, and before any judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the holders of a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if: (i) the Company has paid or deposited with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of that series and the principal of (and premium, if any, on) any and all Securities of that series that shall have become due otherwise than by acceleration (with interest upon such principal and premium, if any, and, to the extent that such payment is enforceable under applicable law, upon overdue installments of interest, at the rate per annum expressed in the Securities of that series to the date of such payment or deposit) and the amount payable to the Trustee under Section 7.06, and (ii) any and all Events of Default under the Indenture with respect to such series, other than the nonpayment of principal on (and premium, if any, on) and accrued and unpaid interest on Securities of that series that shall not have become due by their terms, shall have been remedied or waived as provided in Section 6.06.

No such rescission and annulment shall extend to or shall affect any subsequent default or impair any right consequent thereon.

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

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

(a) The Company covenants that (i) in case it shall default in the payment of any installment of interest on any of the Securities of a series, or in any payment required by any sinking or analogous fund established with respect to that series as and when the same shall have become due and payable, and such default shall have continued for a period of 90 Business Days, or (ii) in case it shall default in the payment of the principal of (or premium, if any, on) any of the Securities of a series when the same shall have become due and payable, whether upon maturity of the Securities of a series or upon redemption or upon declaration or otherwise then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Securities of that series, the whole amount that then shall have become due and payable on all such Securities for principal (and premium, if any) or interest, or both, as the case may be, with interest upon the overdue principal (and premium, if any) and (to the extent that payment of such interest is enforceable under applicable law) upon overdue installments of interest at the rate per annum expressed in the Securities of that series; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and the amount payable to the Trustee under Section 7.06.

(b) If the Company shall fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or other obligor upon the Securities of that series and collect the moneys adjudged or decreed to be payable in the manner provided by law or equity out of the property of the Company or other obligor upon the Securities of that series, wherever situated.

(c) In case of any receivership, insolvency, liquidation, bankruptcy, reorganization, readjustment, arrangement, composition or judicial proceedings affecting the Company, or its creditors or property, the Trustee shall have power to intervene in such proceedings and take any action therein that may be permitted by the court and shall (except as may be otherwise provided by law) be entitled to file such proofs of claim and other papers and documents as may be necessary or advisable in order to have the claims of the Trustee and of the holders of Securities of such series allowed for the entire amount due and payable by the Company under the Indenture at the date of institution of such proceedings and for any additional amount that may become due and payable by the Company after such date, and to collect and receive any moneys or other property payable or deliverable on any such claim, and to distribute the same after the deduction of the amount payable to the Trustee under Section 7.06; and any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized by each of the holders of Securities of such series to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to such Securityholders, to pay to the Trustee any amount due it under Section 7.06.

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

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

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

Section 6.03 Application of Moneys or Property Collected.

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

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

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

THIRD: To the payment of the remainder, if any, to the Company or any other Person lawfully entitled thereto as requested by the Company.

Section 6.04 Limitation on Suits.

No holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless (i) such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof with respect to the Securities of such series specifying such Event of Default, as hereinbefore provided; (ii) the holders of not less than 25% in aggregate principal amount of the Securities of such series then Outstanding shall have made written request upon the Trustee to institute such action, suit or proceeding in its own name as Trustee hereunder; (iii) such holder or holders shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby; (iv) the Trustee for 90 days after its receipt of such notice, request and offer of indemnity, shall have failed to institute any such action, suit or proceeding and (v) during such 90 day period, the holders of a majority in principal amount of the Securities of that series do not give the Trustee a direction inconsistent with the request.

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

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

(a) Except as otherwise provided in Section 2.07, all powers and remedies given by this Article to the Trustee or to the Securityholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any other powers and remedies available to the Trustee or the holders of the Securities, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture or otherwise established with respect to such Securities.

(b) No delay or omission of the Trustee or of any holder of any of the Securities to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or an acquiescence therein; and, subject to the provisions of Section 6.04, every power and remedy given by this Article or by law to the Trustee or the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

Section 6.06 Control by Securityholders.

The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding, determined in accordance with Section 8.04, shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to such series; provided, however, that such direction shall not be in conflict with any rule of law or with this Indenture. Subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer or officers of the Trustee, determine that the proceeding so directed, subject to the Trustee's duties under the Trust Indenture Act, would involve the Trustee in personal liability or might be unduly prejudicial to the Securityholders not involved in the proceeding. The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding affected thereby, determined in accordance with Section 8.04, may on behalf of the holders of all of the Securities of such series waive any past default in the performance of any of the covenants contained herein or established pursuant to Section 2.01 with respect to such series and its consequences, except a default in the payment of the principal of, or premium, if any, or interest on, any of the Securities of that series as and when the same shall become due by the terms of such Securities otherwise than by acceleration (unless such default has been cured and a sum sufficient to pay all matured installments of interest and principal and any premium has been deposited with the Trustee (in accordance with Section 6.01(c)). Upon any such waiver, the default covered thereby shall be deemed to be cured for all purposes of this Indenture and the Company, the Trustee and the holders of the Securities of such series shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 6.07 Undertaking to Pay Costs.

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

ARTICLE 7

CONCERNING THE TRUSTEE

Section 7.01 Certain Duties and Responsibilities of Trustee.

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

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

(i) prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing or waiving of all such Events of Default with respect to that series that may have occurred:

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

(B) in the absence of bad faith on the part of the Trustee, the Trustee may with respect to the Securities of such series conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions that by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirement of this Indenture;

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

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

(iv) None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers if there is reasonable ground for believing that the repayment of such funds or liability is not reasonably assured to it under the terms of this Indenture or adequate indemnity against such risk is not reasonably assured to it.

Section 7.02 Certain Rights of Trustee.

Except as otherwise provided in Section 7.01:

(a) The Trustee may rely conclusively and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) Any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by a Board Resolution or an instrument signed in the name of the Company by any authorized officer of the Company (unless other evidence in respect thereof is specifically prescribed herein);

(c) The Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or suffered or omitted hereunder in good faith and in reliance thereon;

(d) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby; nothing contained herein shall, however, relieve the Trustee of the obligation, upon the occurrence of an Event of Default with respect to a series of the Securities (that has not been cured or waived), to exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and to use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs;

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

(f) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security, or other papers or documents, unless requested in writing so to do by the holders of not less than a majority in principal amount of the Outstanding Securities of the particular series affected thereby (determined as provided in Section 8.04); provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity against such costs, expenses or liabilities as a condition to so proceeding. The reasonable expense of every such examination shall be paid by the Company or, if paid by the Trustee, shall be repaid by the Company upon demand; and

(g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder.

In addition, the Trustee shall not be deemed to have knowledge of any Default or Event of Default except (1) any Event of Default occurring pursuant to Sections 6.01(a)(1), 6.01(a)(2) and 4.01 hereof or (2) any Default or Event of Default of which the Trustee shall have received written notification in the manner set forth in this Indenture or a Responsible Officer of the Trustee shall have obtained actual knowledge. Delivery of reports, information and documents to the Trustee under Section 5.03 is for informational purposes only and the information and the Trustee's receipt of the foregoing shall not constitute constructive notice of any information contained therein, or determinable from information contained therein including the Company's compliance with any of their covenants thereunder (as to which the Trustee is entitled to rely conclusively on an Officers' Certificate).

Section 7.03 Trustee Not Responsible for Recitals or Issuance or Securities.

(a) The recitals contained herein and in the Securities shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same.

(b) The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities.

(c) The Trustee shall not be accountable for the use or application by the Company of any of the Securities or of the proceeds of such Securities, or for the use or application of any moneys paid over by the Trustee in accordance with any provision of this Indenture or established pursuant to Section 2.01, or for the use or application of any moneys received by any paying agent other than the Trustee.

Section 7.04 May Hold Securities.

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

Section 7.05 Moneys Held in Trust.

Subject to the provisions of Section 11.05, all moneys received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, but need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any moneys received by it hereunder except such as it may agree with the Company to pay thereon.

Section 7.06 Compensation and Reimbursement.

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

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

Section 7.07 Reliance on Officers' Certificate.

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

Section 7.08 Disqualification; Conflicting Interests.

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

Section 7.09 Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee with respect to the Securities issued hereunder which shall at all times be a corporation organized and doing business under the laws of the United States of America or any state or territory thereof or of the District of Columbia, or a corporation or other Person permitted to act as trustee by the Securities and Exchange Commission, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least fifty million U.S. dollars (\$50,000,000), and subject to supervision or examination by federal, state, territorial, or District of Columbia authority.

If such corporation or other Person publishes reports of condition at least annually, pursuant to law or to the requirements of the aforesaid supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or other Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. The Company may not, nor may any Person directly or indirectly controlling, controlled by, or under common control with the Company, serve as Trustee. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 7.10.

Section 7.10 Resignation and Removal; Appointment of Successor.

(a) The Trustee or any successor hereafter appointed may at any time resign with respect to the Securities of one or more series by giving written notice thereof to the Company and by transmitting notice of resignation by mail, first class postage prepaid, to the Securityholders of such series, as their names and addresses appear upon the Security Register.

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

(b) In case at any time any one of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 7.08 after written request therefor by the Company or by any Securityholder who has been a bona fide holder of a Security or Securities for at least six months; or

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 7.09 and shall fail to resign after written request therefor by the Company or by any such Securityholder; or

(iii) the Trustee shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or commence a voluntary bankruptcy proceeding, or a receiver of the Trustee or of its property shall be appointed or consented to, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation; then, in any such case, the Company may remove the Trustee with respect to all Securities and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or any Securityholder who has been a bona fide holder of a Security or Securities for at least six months may, on behalf of that holder and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

(c) The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding may at any time remove the Trustee with respect to such series by so notifying the Trustee and the Company and may appoint a successor Trustee for such series with the consent of the Company.

(d) Any resignation or removal of the Trustee and appointment of a successor trustee with respect to the Securities of a series pursuant to any of the provisions of this Section shall become effective upon acceptance of appointment by the successor trustee as provided in Section 7.11.

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

Section 7.11 Acceptance of Appointment By Successor.

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

(b) In case of the appointment hereunder of a successor trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and each successor trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor trustee shall accept such appointment and which (i) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each successor trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates, (ii) 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, that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee and that no Trustee shall be responsible for any act or failure to act on the part of any other Trustee hereunder; and upon the execution and delivery of such supplemental indenture the resignation or removal of the retiring Trustee shall become effective to the extent provided therein, such retiring Trustee shall with respect to the Securities of that or those series to which the appointment of such successor trustee relates have no further responsibility for the exercise of rights and powers or for the performance of the duties and obligations vested in the Trustee under this Indenture, and each such successor trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates; but, on request of the Company or any successor trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor trustee, to the extent contemplated by such supplemental indenture, the property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor trustee relates.

(c) Upon request of any such successor trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor trustee all such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.

(d) No successor trustee shall accept its appointment unless at the time of such acceptance such successor trustee shall be qualified and eligible under this Article.

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

Section 7.12 Merger, Conversion, Consolidation or Succession to Business.

Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 7.08 and eligible under the provisions of Section 7.09, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding. In case any Securities shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Securities so authenticated with the same effect as if such successor Trustee had itself authenticated such Securities.

Section 7.13 Preferential Collection of Claims Against the Company.

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

Section 7.14 Notice of Default

If any Default or any Event of Default occurs and is continuing and if such Default or Event of Default is known to a Responsible Officer of the Trustee, the Trustee shall mail to each Securityholder in the manner and to the extent provided in Section 313(c) of the Trust Indenture Act notice of the Default or Event of Default within 45 days after it occurs and becomes known to the Trustee, unless such Default or Event of Default has been cured; *provided, however*, that, except in the case of a default in the payment of the principal of (or premium, if any) or interest on any Security, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors and/or Responsible Officers of the Trustee in good faith determine that the withholding of such notice is in the interest of the Securityholders.

ARTICLE 8

CONCERNING THE SECURITYHOLDERS

Section 8.01 Evidence of Action by Securityholders.

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

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

Section 8.02 Proof of Execution by Securityholders.

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

- (a) The fact and date of the execution by any such Person of any instrument may be proved in any reasonable manner acceptable to the Trustee.
- (b) The ownership of Securities shall be proved by the Security Register of such Securities or by a certificate of the Security Registrar thereof.

The Trustee may require such additional proof of any matter referred to in this Section as it shall deem necessary.

Section 8.03 Who May be Deemed Owners.

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

Section 8.04 Certain Securities Owned by Company Disregarded.

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

Section 8.05 Actions Binding on Future Securityholders.

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

Indenture in connection with such action shall be conclusively binding upon the Company, the Trustee and the holders of all the Securities of that series.

ARTICLE 9

SUPPLEMENTAL INDENTURES

Section 9.01 Supplemental Indentures Without the Consent of Securityholders.

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

- (a) to cure any ambiguity, defect, or inconsistency herein or in the Securities of any series;
- (b) to comply with Article Ten;

(c) to provide for uncertificated Securities in addition to or in place of certificated Securities and to make all appropriate changes for such purpose;

(d) to add to the covenants, restrictions, conditions or provisions relating to the Company for the benefit of the holders of all or any series of Securities (and if such covenants, restrictions, conditions or provisions are to be for the benefit of less than all series of Securities, stating that such covenants, restrictions, conditions or provisions are expressly being included solely for the benefit of such series), to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default, or to surrender any right or power herein conferred upon the Company;

(e) to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of Securities, as herein set forth;

(f) to make any change that does not adversely affect the rights of any Securityholder in any material respect;

(g) to provide for the issuance of and establish the form and terms and conditions of the Securities of any series as provided in Section 2.01, to establish the form of any certifications required to be furnished pursuant to the terms of this Indenture or any series of Securities, or to add to the rights of the holders of any series of Securities;

(h) to evidence and provide for the acceptance of appointment hereunder by a successor trustee; or

(i) to comply with any requirements of the Securities and Exchange Commission or any successor in connection with the qualification of this Indenture under the Trust Indenture Act.

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

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

Section 9.02 Supplemental Indentures With Consent of Securityholders.

With the consent (evidenced as provided in Section 8.01) of the holders of not less than a majority in aggregate principal amount of the Securities of each series affected by such supplemental indenture or indentures at the time Outstanding, the Company, when authorized by a Board Resolution, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner not covered by Section 9.01 the rights of the holders of the Securities of such series under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the holders of each Security of the series affected by such supplement indenture then Outstanding and affected thereby, (a) extend the fixed maturity of any Securities of any series, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof or (b) reduce the aforesaid percentage of Securities, the holders of which are required to consent to any such supplemental indenture.

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

Section 9.03 Effect of Supplemental Indentures.

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

Section 9.04 Securities Affected by Supplemental Indentures.

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

Section 9.05 Execution of Supplemental Indentures.

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

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

ARTICLE 10

SUCCESSOR ENTITY

Section 10.01 Company May Consolidate, Etc.

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

Section 10.02 Successor Entity Substituted.

(a) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition and upon the assumption by the successor entity by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the obligations set forth under Section 10.01 on all of the Securities of all series Outstanding, such successor entity shall succeed to and be substituted for the Company with the same effect as if it had been named as the Company herein, and thereupon the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

(b) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

(c) Nothing contained in this Article shall require any action by the Company in the case of a consolidation or merger of any Person into the Company where the Company is the survivor of such transaction, or the acquisition by the Company, by purchase or otherwise, of all or any part of the property of any other Person (whether or not affiliated with the Company).

Section 10.03 Evidence of Consolidation, Etc. to Trustee.

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

ARTICLE 11

SATISFACTION AND DISCHARGE

Section 11.01 Satisfaction and Discharge of Indenture.

If at any time: (a) the Company shall have delivered to the Trustee for cancellation all Securities of a series theretofore authenticated and not delivered to the Trustee for cancellation (other than any Securities that shall have been destroyed, lost or stolen and that shall have been replaced or paid as provided in Section 2.07 and Securities for whose payment money or Governmental Obligations have theretofore been deposited in trust or segregated and held in trust by the Company and thereupon repaid to the Company or discharged from such trust, as provided in Section 11.05); or (b) all such Securities of a particular series not theretofore delivered to the Trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall deposit or cause to be deposited with the Trustee as trust funds the entire amount in moneys or Governmental Obligations or a combination thereof, sufficient in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay at maturity or upon redemption all Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder with respect to such series by the Company then this Indenture shall thereupon cease to be of further effect with respect to such series except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03 and 7.10, that shall survive until the date of maturity or redemption date, as the case may be, and Sections 7.06 and 11.05, that shall survive to such date and thereafter, and the Trustee, on demand of the Company and at the cost and expense of the Company shall execute proper instruments acknowledging satisfaction of and discharging this Indenture with respect to such series.

Section 11.02 Discharge of Obligations.

If at any time all such Securities of a particular series not heretofore delivered to the Trustee for cancellation or that have not become due and payable as described in Section 11.01 shall have been paid by the Company by depositing irrevocably with the Trustee as trust funds moneys or an amount of Governmental Obligations sufficient to pay at maturity or upon redemption all such Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder by the Company with respect to such series, then after the date such moneys or Governmental Obligations, as the case may be, are deposited with the Trustee the obligations of the Company under this Indenture with respect to such series shall cease to be of further effect except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03, 7.05, 7.10 and 11.05 hereof that shall survive until such Securities shall mature and be paid.

Thereafter, Sections 7.06 and 11.05 shall survive.

Section 11.03 Deposited Moneys to be Held in Trust.

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

Section 11.04 Payment of Moneys Held by Paying Agents.

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

Section 11.05 Repayment to Company.

Any moneys or Governmental Obligations deposited with any paying agent or the Trustee, or then held by the Company, in trust for payment of principal of or premium, if any, or interest on the Securities of a particular series that are not applied but remain unclaimed by the holders of such Securities for at least two years after the date upon which the principal of (and premium, if any) or interest on such Securities shall have respectively become due and payable, or such other shorter period set forth in applicable escheat or abandoned or unclaimed property law, shall be repaid to the Company on May 31 of each year or upon the Company's request or (if then held by the Company) shall be discharged from such trust; and thereupon the paying agent and the Trustee shall be released from all further liability with respect to such moneys or Governmental Obligations, and the holder of any of the Securities entitled to receive such payment shall thereafter, as a general creditor, look only to the Company for the payment thereof.

ARTICLE 12

IMMUNITY OF INCORPORATORS, SHAREHOLDERS, OFFICERS AND DIRECTORS

Section 12.01 No Recourse.

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

ARTICLE 13

MISCELLANEOUS PROVISIONS

Section 13.01 Effect on Successors and Assigns.

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

Section 13.02 Actions by Successor.

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

Section 13.03 Surrender of Company Powers.

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

Section 13.04 Notices.

Except as otherwise expressly provided herein, any notice, request or demand that by any provision of this Indenture is required or permitted to be given, made or served by the Trustee or by the holders of Securities or by any other Person pursuant to this Indenture to or on the Company may be given or served and shall be deemed to have been duly given or made on (a) delivery thereof, if by hand; (b) upon receipt, if sent by mail (registered or certified mail, postage prepaid, return receipt requested); (c) on the second Business Day following deposit, if sent by a recognized overnight delivery service; or (d) upon transmission, if sent by facsimile transmission (in each case with receipt verified by electronic confirmation), as follows: 17th Floor, Guangdong Investment Tower, 148 Connaught Road Central, Hong Kong, facsimile number: [+852 2850 7286], email: [finance@aporumgroup.com], with a copy which shall not constitute notice to Hunter Taubman Fischer & Li, 1450 Broadway 26th Floor, New York, New York 10018, Attn: Louis Taubman, Esq., facsimile number: (212)202-6380, email: ltaubman@htflawyers.com. Any notice, election, request or demand by the Company or any Securityholder or by any other Person pursuant to this Indenture to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made in writing at the Corporate Trust Office of the Trustee.

Section 13.05 Governing Law.

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

Section 13.06 Treatment of Securities as Debt.

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

Section 13.07 Certificates and Opinions as to Conditions Precedent.

(a) Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture, the Company shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent provided for in this Indenture (other than the certificate to be delivered pursuant to Section 13.13) relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.

(b) Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant in this Indenture shall include (i) a statement that the Person making such certificate or opinion has read such covenant or condition; (ii) 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; (iii) a statement that, in the opinion of such Person, he has made such examination or investigation as is reasonably necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and (iv) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been complied with.

Section 13.08 Payments on Business Days.

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

Section 13.09 Conflict with Trust Indenture Act.

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

Section 13.10 Indenture and Securities Solely Corporate Obligations.

No recourse for the payment of the principal of, premium, if any, or interest on any Securities, or for any claim based thereon or otherwise in respect thereof, and no recourse under or upon any obligation, covenant or agreement of the Company in this Indenture or in any supplemental indenture or in any Security, or because of the creation of any indebtedness represented thereby, shall be had against any incorporator, shareholder, employee, agent, officer, director or subsidiary, as such, past, present or future, of the Company or of any successor entity, either directly or through the Company or any successor entity, whether by virtue of any constitution, statute, or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that all such liability is hereby expressly waived and released as a condition of, and as a consideration for, the execution of this Indenture and the issuance of the Securities.

Section 13.11 Counterparts.

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

Section 13.12 Separability.

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

Section 13.13 Compliance Certificates.

The Company shall deliver to the Trustee, within 120 days after the end of each fiscal year during which any Securities of any series were outstanding, a compliance certificate stating whether or not the signer knows of any Default or Event of Default that occurred during such fiscal year. Such certificate shall contain a certification from the principal executive officer, principal financial officer or principal accounting officer of the Company that a review has been conducted of the activities of the Company and the Company's performance under this Indenture and that the Company has complied with all conditions and covenants under this Indenture. For purposes of this Section 13.13, such compliance shall be determined without regard to any period of grace or requirement of notice provided under this Indenture. If the officer of the Company signing such certificate has knowledge of such a Default or Event of Default, the certificate shall describe any such Default or Event of Default and its status.

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

APTORUM GROUP LIMITED

By:

Name:

Title:

[TRUSTEE], as Trustee

By:

Name:

Title:

CROSS-REFERENCE TABLE (1)

Section of Trust Indenture Act of 1939, as Amended	Section of Indenture
310(a)	7.09
310(b)	7.08
	7.10
310(c)	Inapplicable
311(a)	7.13
311(b)	7.13
311(c)	Inapplicable
312(a)	5.01
	5.02(a)
312(b)	5.02(c)
312(c)	5.02(c)
313(a)	5.04(a)
313(b)	5.04(b)
313(c)	5.04(a)
	5.04(b)
313(d)	5.04(c)
314(a)	5.03
	13.12
314(b)	Inapplicable
314(c)	13.07(a)
314(d)	Inapplicable
314(e)	13.07(b)
314(f)	Inapplicable
315(a)	7.01(a)
	7.01(b)
315(b)	7.14
315(c)	7.01
315(d)	7.01(b)
315(e)	6.07
316(a)	6.06
	8.04
316(b)	6.04
316(c)	8.01
317(a)	6.02
317(b)	4.03
318(a)	13.09

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

APTORUM GROUP LIMITED

Issuer

AND

[TRUSTEE]

Trustee

INDENTURE

Dated as of [●], 20[●]

Subordinated Debt Securities

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

INDENTURE

INDENTURE, dated as of [·], 20[·], among Aptorum Group Limited, a Cayman Islands exempted company with limited liability whose principal place of business is in Hong Kong and, subject to the provisions of Article Ten, shall also include its successors and assigns (the “Company”), and [TRUSTEE], as trustee (the “Trustee”).

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

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

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

NOW, THEREFORE, in consideration of the premises and the purchase of the Securities by the holders thereof, it is mutually covenanted and agreed as follows for the equal and ratable benefit of the holders of Securities:

ARTICLE 1

DEFINITIONS

Section 1.01 Definitions of Terms.

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

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

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

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

“**Board Resolution**” means a copy of a resolution certified by the Secretary or an Assistant Secretary of the Company to have been duly adopted by the Board of Directors and to be in full force and effect on the date of such certification.

“**Business Day**” means, with respect to any series of Securities, any day other than a day on which federal or state banking institutions in the Borough of Manhattan, the City of New York, or in the city of the Corporate Trust Office of the Trustee, are authorized or obligated by law, executive order or regulation to close.

“**Certificate**” means a certificate signed by any Officer. The Certificate need not comply with the provisions of Section 13.07.

“**Corporate Trust Office**” means the office of the Trustee at which, at any particular time, its corporate trust business shall be principally administered, which office at the date hereof is located at .

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

“**Default**” means any event, act or condition that with notice or lapse of time, or both, would constitute an Event of Default.

“**Depository**” means, with respect to Securities of any series for which the Company shall determine that such Securities will be issued as a Global Security, The Depository Trust Company, New York, New York, another clearing agency, or any successor registered as a clearing agency under the Securities and Exchange Act of 1934, as amended (the “Exchange Act”), or other applicable statute or regulation, which, in each case, shall be designated by the Company pursuant to either Section 2.01 or 2.11.

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

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

“**Governmental Obligations**” means securities that are (a) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (b) obligations of a Person controlled or supervised by and acting as an agency or instrumentality of the United States of America, the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America that, in either case, are not callable or redeemable at the option of the issuer thereof at any time prior to the stated maturity of the Securities, and shall also include a depository receipt issued by a bank or trust company as custodian with respect to any such Governmental Obligation or a specific payment of principal of or interest on any such Governmental Obligation held by such custodian for the account of the holder of such depository receipt; provided, however, that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depository receipt from any amount received by the custodian in respect of the Governmental Obligation or the specific payment of principal of or interest on the Governmental Obligation evidenced by such depository receipt.

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

“**Indenture**” means this instrument as originally executed or as it may from time to time be supplemented or amended by one or more indentures supplemental hereto entered into in accordance with the terms hereof.

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

“Officer” means, with respect to the Company, the chairman of the Board of Directors, a chief executive officer, a president, a chief financial officer, chief operating officer, any executive vice president, any senior vice president, any vice president, the treasurer or any assistant treasurer, the controller or any assistant controller or the secretary or any assistant secretary.

“Officers’ Certificate” means a certificate signed by any two Officers. Each such certificate shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

“Opinion of Counsel” means an opinion in writing subject to customary exceptions of legal counsel, who may be an employee of or counsel for the Company, that is delivered to the Trustee in accordance with the terms hereof. Each such opinion shall include the statements provided for in Section 13.07, if and to the extent required by the provisions thereof.

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

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

“Predecessor Security” of any particular Security means every previous Security evidencing all or a portion of the same debt as that evidenced by such particular Security; and, for the purposes of this definition, any Security authenticated and delivered under Section 2.07 in lieu of a lost, destroyed or stolen Security shall be deemed to evidence the same debt as the lost, destroyed or stolen Security.

“Responsible Officer” when used with respect to the Trustee means the chairman of its board of directors, the chief executive officer, the president, any vice president, the secretary, the treasurer, any trust officer, any corporate trust officer or any other officer or assistant officer of the Trustee customarily performing functions similar to those performed by the Persons who at the time shall be such officers, respectively, or to whom any corporate trust matter is referred because of his or her knowledge of and familiarity with the particular subject.

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

“**Securityholder**”, “holder of Securities”, “registered holder”, or other similar term, means the Person or Persons in whose name or names a particular Security shall be registered on the books of the Company kept for that purpose in accordance with the terms of this Indenture.

“**Security Register**” and “**Security Registrar**” shall have the meanings as set forth in Section 2.05.

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

“**Trustee**” means , and, subject to the provisions of Article Seven, shall also include its successors and assigns, and, if at any time there is more than one Person acting in such capacity hereunder, “Trustee” shall mean each such Person. The term “Trustee” as used with respect to a particular series of the Securities shall mean the trustee with respect to that series.

“**Trust Indenture Act**” means the Trust Indenture Act of 1939, as amended.

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

ARTICLE 2

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

Section 2.01 Designation and Terms of Securities.

(a) The aggregate principal amount of Securities that may be authenticated and delivered under this Indenture is unlimited. The Securities may be issued in one or more series up to the aggregate principal amount of Securities of that series from time to time authorized by or pursuant to a Board Resolution or pursuant to one or more indentures supplemental hereto. Prior to the initial issuance of Securities of any series, there shall be established in or pursuant to a Board Resolution, and set forth in an Officers’ Certificate, or established in one or more indentures supplemental hereto:

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

(2) any limit upon the aggregate principal amount of the Securities of that series that may be authenticated and delivered under this Indenture (except for Securities authenticated and delivered upon registration of transfer of, or in exchange for, or in lieu of, other Securities of that series);

(3) the date or dates on which the principal of the Securities of the series is payable, any original issue discount that may apply to the Securities of that series upon their issuance, the principal amount due at maturity, and the place(s) of payment;

(4) the rate or rates at which the Securities of the series shall bear interest or the manner of calculation of such rate or rates, if any;

(5) the date or dates from which such interest shall accrue, the Interest Payment Dates on which such interest will be payable or the manner of determination of such Interest Payment Dates, the place(s) of payment, and the record date for the determination of holders to whom interest is payable on any such Interest Payment Dates or the manner of determination of such record dates;

(6) the right, if any, to extend the interest payment periods and the duration of such extension;

(7) the period or periods within which, the price or prices at which and the terms and conditions upon which Securities of the series may be redeemed, in whole or in part, at the option of the Company;

(8) the obligation, if any, of the Company to redeem or purchase Securities of the series pursuant to any sinking fund, mandatory redemption, or analogous provisions (including payments made in cash in satisfaction of future sinking fund obligations) or at the option of a holder thereof and the period or periods within which, the price or prices at which, and the terms and conditions upon which, Securities of the series shall be redeemed or purchased, in whole or in part, pursuant to such obligation;

(9) the form of the Securities of the series including the form of the Certificate of Authentication for such series;

(10) if other than denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, the denominations in which the Securities of the series shall be issuable;

(11) any and all other terms (including terms, to the extent applicable, relating to any auction or remarketing of the Securities of that series and any security for the obligations of the Company with respect to such Securities) with respect to such series (which terms shall not be inconsistent with the terms of this Indenture, as amended by any supplemental indenture) including any terms which may be required by or advisable under United States laws or regulations or advisable in connection with the marketing of Securities of that series;

(12) whether the Securities are issuable as a Global Security and, in such case, the terms and the identity of the Depositary for such series;

(13) whether the Securities will be convertible into or exchangeable for ordinary shares or other securities of the Company or any other Person and, if so, the terms and conditions upon which such Securities will be so convertible or exchangeable, including the conversion or exchange price, as applicable, or how it will be calculated and may be adjusted, any mandatory or optional (at the Company's option or the holders' option) conversion or exchange features, and the applicable conversion or exchange period;

(14) if other than the principal amount thereof, the portion of the principal amount of Securities of the series which shall be payable upon declaration of acceleration of the maturity thereof pursuant to Section 6.01;

(15) any additional or different Events of Default or restrictive covenants (which may include, among other restrictions, restrictions on the Company's ability or the ability of the Company's Subsidiaries to: incur additional indebtedness; issue additional securities; create liens; pay dividends or make distributions in respect of their capital shares; redeem capital shares; place restrictions on such Subsidiaries placing restrictions on their ability to pay dividends, make distributions or transfer assets; make investments or other restricted payments; sell or otherwise dispose of assets; enter into sale-leaseback transactions; engage in transactions with shareholders and affiliates; issue or sell shares of their Subsidiaries; or effect a consolidation or merger) or financial covenants (which may include, among other financial covenants, financial covenants that require the Company and its Subsidiaries to maintain specified interest coverage, fixed charge, cash flow-based or asset-based ratios) provided for with respect to the Securities of the series;

(16) if other than dollars, the coin or currency in which the Securities of the series are denominated (including, but not limited to, foreign currency);

(17) the terms and conditions, if any, upon which the Company shall pay amounts in addition to the stated interest, premium, if any and principal amounts of the Securities of the series to any Securityholder that is not a "United States person" for federal tax purposes;

(18) any restrictions on transfer, sale or assignment of the Securities of the series; and

(19) the subordination terms of the Securities of the series.

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

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

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

Section 2.02 Form of Securities and Trustee's Certificate.

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

Section 2.03 Denominations: Provisions for Payment.

The Securities shall be issuable as registered Securities and in the denominations of one thousand U.S. dollars (\$1,000) or any integral multiple thereof, subject to Section 2.01(a)(10). The Securities of a particular series shall bear interest payable on the dates and at the rate specified with respect to that series. Subject to Section 2.01(a)(16), the principal of and the interest on the Securities of any series, as well as any premium thereon in case of redemption thereof prior to maturity, shall be payable in the coin or currency of the United States of America that at the time is legal tender for public and private debt, at the office or agency of the Company maintained for that purpose in the Borough of Manhattan, the City and State of New York. Each Security shall be dated the date of its authentication. Interest on the Securities shall be computed on the basis of a 360-day year composed of twelve 30-day months.

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

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

(1) The Company may make payment of any Defaulted Interest on Securities to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered at the close of business on a special record date for the payment of such Defaulted Interest, which shall be fixed in the following manner: the Company shall notify the Trustee in writing of the amount of Defaulted Interest proposed to be paid on each such Security and the date of the proposed payment, and at the same time the Company shall deposit with the Trustee an amount of money equal to the aggregate amount proposed to be paid in respect of such Defaulted Interest or shall make arrangements satisfactory to the Trustee for such deposit prior to the date of the proposed payment, such money when deposited to be held in trust for the benefit of the Persons entitled to such Defaulted Interest as in this clause provided. Thereupon the Trustee shall fix a special record date for the payment of such Defaulted Interest which shall not be more than 15 nor less than 10 days prior to the date of the proposed payment and not less than 10 days after the receipt by the Trustee of the notice of the proposed payment. The Trustee shall promptly notify the Company of such special record date and, in the name and at the expense of the Company, shall cause notice of the proposed payment of such Defaulted Interest and the special record date therefor to be mailed, first class postage prepaid, to each Securityholder at his or her address as it appears in the Security Register (as hereinafter defined), not less than 10 days prior to such special record date. Notice of the proposed payment of such Defaulted Interest and the special record date therefor having been mailed as aforesaid, such Defaulted Interest shall be paid to the Persons in whose names such Securities (or their respective Predecessor Securities) are registered on such special record date.

(2) The Company may make payment of any Defaulted Interest on any Securities in any other lawful manner not inconsistent with the requirements of any securities exchange on which such Securities may be listed, and upon such notice as may be required by such exchange, if, after notice given by the Company to the Trustee of the proposed payment pursuant to this clause, such manner of payment shall be deemed practicable by the Trustee.

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

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

Section 2.04 Execution and Authentication.

The Securities shall be signed on behalf of the Company by one of its Officers. Signatures may be in the form of a manual or facsimile signature.

The Company may use the facsimile signature of any Person who shall have been an Officer, notwithstanding the fact that at the time the Securities shall be authenticated and delivered or disposed of such Person shall have ceased to be such an officer of the Company. The Securities may contain such notations, legends or endorsements required by law, stock exchange rule or usage. Each Security shall be dated the date of its authentication by the Trustee.

A Security shall not be valid until authenticated manually by an authorized signatory of the Trustee, or by an Authenticating Agent. Such signature shall be conclusive evidence that the Security so authenticated has been duly authenticated and delivered hereunder and that the holder is entitled to the benefits of this Indenture. At any time and from time to time after the execution and delivery of this Indenture, the Company may deliver Securities of any series executed by the Company to the Trustee for authentication, together with a written order of the Company for the authentication and delivery of such Securities, signed by an Officer, and the Trustee in accordance with such written order shall authenticate and deliver such Securities.

In authenticating such Securities and accepting the additional responsibilities under this Indenture in relation to such Securities, the Trustee shall be entitled to receive, and (subject to Section 7.01) shall be fully protected in relying upon, an Opinion of Counsel stating that the form and terms thereof have been established in conformity with the provisions of this Indenture.

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

Section 2.05 Registration of Transfer and Exchange.

(a) Securities of any series may be exchanged upon presentation thereof at the office or agency of the Company designated for such purpose in the Borough of Manhattan, the City and State of New York, for other Securities of such series of authorized denominations, and for a like aggregate principal amount, upon payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, all as provided in this Section. In respect of any Securities so surrendered for exchange, the Company shall execute, the Trustee shall authenticate and such office or agency shall deliver in exchange therefor the Security or Securities of the same series that the Securityholder making the exchange shall be entitled to receive, bearing numbers not contemporaneously outstanding.

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

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

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

(c) Except as provided pursuant to Section 2.01 pursuant to a Board Resolution, and set forth in an Officers' Certificate, or established in one or more indentures supplemental to this Indenture, no service charge shall be made for any exchange or registration of transfer of Securities, or issue of new Securities in case of partial redemption of any series, but the Company may require payment of a sum sufficient to cover any tax or other governmental charge in relation thereto, other than exchanges pursuant to Section 2.06, Section 3.03(b) and Section 9.04 not involving any transfer.

(d) The Company shall not be required (i) to issue, exchange or register the transfer of any Securities during a period beginning at the opening of business 15 days before the day of the mailing of a notice of redemption of less than all the Outstanding Securities of the same series and ending at the close of business on the day of such mailing, nor (ii) to register the transfer of or exchange any Securities of any series or portions thereof called for redemption, other than the unredeemed portion of any such Securities being redeemed in part. The provisions of this Section 2.05 are, with respect to any Global Security, subject to Section 2.11 hereof.

Section 2.06 Temporary Securities.

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

Section 2.07 Mutilated, Destroyed, Lost or Stolen Securities.

In case any temporary or definitive Security shall become mutilated or be destroyed, lost or stolen, the Company (subject to the next succeeding sentence) shall execute, and upon the Company's request the Trustee (subject as aforesaid) shall authenticate and deliver, a new Security of the same series, bearing a number not contemporaneously outstanding, in exchange and substitution for the mutilated Security, or in lieu of and in substitution for the Security so destroyed, lost or stolen. In every case the applicant for a substituted Security shall furnish to the Company and the Trustee such security or indemnity as may be required by them to save each of them harmless, and, in every case of destruction, loss or theft, the applicant shall also furnish to the Company and the Trustee evidence to their satisfaction of the destruction, loss or theft of the applicant's Security and of the ownership thereof. The Trustee may authenticate any such substituted Security and deliver the same upon the written request or authorization of any officer of the Company. Upon the issuance of any substituted Security, the Company may require the payment of a sum sufficient to cover any tax or other governmental charge that may be imposed in relation thereto and any other expenses (including the fees and expenses of the Trustee) connected therewith.

In case any Security that has matured or is about to mature shall become mutilated or be destroyed, lost or stolen, the Company may, instead of issuing a substitute Security, pay or authorize the payment of the same (without surrender thereof except in the case of a mutilated Security) if the applicant for such payment shall furnish to the Company and the Trustee such security or indemnity as they may require to save them harmless, and, in case of destruction, loss or theft, evidence to the satisfaction of the Company and the Trustee of the destruction, loss or theft of such Security and of the ownership thereof.

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

Section 2.08 Cancellation.

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

Section 2.09 Benefits of Indenture.

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

Section 2.10 Authenticating Agent.

So long as any of the Securities of any series remain Outstanding there may be an Authenticating Agent for any or all such series of Securities which the Trustee shall have the right to appoint. Said Authenticating Agent shall be authorized to act on behalf of the Trustee to authenticate Securities of such series issued upon exchange, transfer or partial redemption thereof, and Securities so authenticated shall be entitled to the benefits of this Indenture and shall be valid and obligatory for all purposes as if authenticated by the Trustee hereunder. All references in this Indenture to the authentication of Securities by the Trustee shall be deemed to include authentication by an Authenticating Agent for such series. Each Authenticating Agent shall be acceptable to the Company and shall be a corporation that has a combined capital and surplus, as most recently reported or determined by it, sufficient under the laws of any jurisdiction under which it is organized or in which it is doing business to conduct a trust business, and that is otherwise authorized under such laws to conduct such business and is subject to supervision or examination by federal or state authorities. If at any time any Authenticating Agent shall cease to be eligible in accordance with these provisions, it shall resign immediately.

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

Section 2.11 Global Securities.

(a) If the Company shall establish pursuant to Section 2.01 that the Securities of a particular series are to be issued as a Global Security, then the Company shall execute and the Trustee shall, in accordance with Section 2.04, authenticate and deliver, a Global Security that (i) shall represent, and shall be denominated in an amount equal to the aggregate principal amount of, all of the Outstanding Securities of such series, (ii) shall be registered in the name of the Depository or its nominee, (iii) shall be delivered by the Trustee to the Depository or pursuant to the Depository's instruction and (iv) shall bear a legend substantially to the following effect: "Except as otherwise provided in Section 2.11 of the Indenture, this Security may be transferred, in whole but not in part, only to another nominee of the Depository or to a successor Depository or to a nominee of such successor Depository."

(b) Notwithstanding the provisions of Section 2.05, the Global Security of a series may be transferred, in whole but not in part and in the manner provided in Section 2.05, only to another nominee of the Depository for such series, or to a successor Depository for such series selected or approved by the Company or to a nominee of such successor Depository.

(c) If at any time the Depository for a series of the Securities notifies the Company that it is unwilling or unable to continue as Depository for such series or if at any time the Depository for such series shall no longer be registered or in good standing under the Exchange Act, or other applicable statute or regulation, and a successor Depository for such series is not appointed by the Company within 90 days after the Company receives such notice or becomes aware of such condition, as the case may be, or if an Event of Default has occurred and is continuing and the Company has received a request from the Depository, this Section 2.11 shall no longer be applicable to the Securities of such series and the Company will execute, and subject to Section 2.04, the Trustee will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. In addition, the Company may at any time determine that the Securities of any series shall no longer be represented by a Global Security and that the provisions of this Section 2.11 shall no longer apply to the Securities of such series. In such event the Company will execute and, subject to Section 2.04, the Trustee, upon receipt of an Officers' Certificate evidencing such determination by the Company, will authenticate and deliver the Securities of such series in definitive registered form without coupons, in authorized denominations, and in an aggregate principal amount equal to the principal amount of the Global Security of such series in exchange for such Global Security. Upon the exchange of the Global Security for such Securities in definitive registered form without coupons, in authorized denominations, the Global Security shall be canceled by the Trustee. Such Securities in definitive registered form issued in exchange for the Global Security pursuant to this Section 2.11(c) shall be registered in such names and in such authorized denominations as the Depository, pursuant to instructions from its direct or indirect participants or otherwise, shall instruct the Trustee. The Trustee shall deliver such Securities to the Depository for delivery to the Persons in whose names such Securities are so registered.

ARTICLE 3

REDEMPTION OF SECURITIES AND SINKING FUND PROVISIONS

Section 3.01 Redemption.

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

Section 3.02 Notice of Redemption.

(a) In case the Company shall desire to exercise such right to redeem all or, as the case may be, a portion of the Securities of any series in accordance with any right the Company reserved for itself to do so pursuant to Section 2.01 hereof, the Company shall, or shall cause the Trustee to, give notice of such redemption to holders of the Securities of such series to be redeemed by mailing, first class postage prepaid, a notice of such redemption not less than 30 days and not more than 90 days before the date fixed for redemption of that series to such holders at their last addresses as they shall appear upon the Security Register, unless a shorter period is specified in the Securities to be redeemed. Any notice that is mailed in the manner herein provided shall be conclusively presumed to have been duly given, whether or not the registered holder receives the notice. In any case, failure duly to give such notice to the holder of any Security of any series designated for redemption in whole or in part, or any defect in the notice, shall not affect the validity of the proceedings for the redemption of any other Securities of such series or any other series. In the case of any redemption of Securities prior to the expiration of any restriction on such redemption provided in the terms of such Securities or elsewhere in this Indenture, the Company shall furnish the Trustee with an Officers' Certificate evidencing compliance with any such restriction.

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

In case any Security is to be redeemed in part only, the notice that relates to such Security shall state the portion of the principal amount thereof to be redeemed, and shall state that on and after the redemption date, upon surrender of such Security, a new Security or Securities of such series in principal amount equal to the unredeemed portion thereof will be issued.

(b) If less than all the Securities of a series are to be redeemed, the Company shall give the Trustee at least 45 days' notice (unless a shorter notice shall be satisfactory to the Trustee) in advance of the date fixed for redemption as to the aggregate principal amount of Securities of the series to be redeemed, and thereupon the Trustee shall select, by lot or in such other manner as it shall deem appropriate and fair in its discretion and that may provide for the selection of a portion or portions (equal to one thousand U.S. dollars (\$1,000) or any integral multiple thereof) of the principal amount of such Securities of a denomination larger than \$1,000, the Securities to be redeemed and shall thereafter promptly notify the Company in writing of the numbers of the Securities to be redeemed, in whole or in part. The Company may, if and whenever it shall so elect, by delivery of instructions signed on its behalf by an Officer, instruct the Trustee or any paying agent to call all or any part of the Securities of a particular series for redemption and to give notice of redemption in the manner set forth in this Section, such notice to be in the name of the Company or its own name as the Trustee or such paying agent may deem advisable. In any case in which notice of redemption is to be given by the Trustee or any such paying agent, the Company shall deliver or cause to be delivered to, or permit to remain with, the Trustee or such paying agent, as the case may be, such Security Register, transfer books or other records, or suitable copies or extracts therefrom, sufficient to enable the Trustee or such paying agent to give any notice by mail that may be required under the provisions of this Section.

Section 3.03 Payment Upon Redemption.

(a) If the giving of notice of redemption shall have been completed as above provided, the Securities or portions of Securities of the series to be redeemed specified in such notice shall become due and payable on the date and at the place stated in such notice at the applicable redemption price, together with interest accrued to the date fixed for redemption and interest on such Securities or portions of Securities shall cease to accrue on and after the date fixed for redemption, unless the Company shall default in the payment of such redemption price and accrued interest with respect to any such Security or portion thereof. On presentation and surrender of such Securities on or after the date fixed for redemption at the place of payment specified in the notice, said Securities shall be paid and redeemed at the applicable redemption price for such series, together with interest accrued thereon to the date fixed for redemption (but if the date fixed for redemption is an interest payment date, the interest installment payable on such date shall be payable to the registered holder at the close of business on the applicable record date pursuant to Section 2.03).

(b) Upon presentation of any Security of such series that is to be redeemed in part only, the Company shall execute and the Trustee shall authenticate and the office or agency where the Security is presented shall deliver to the holder thereof, at the expense of the Company, a new Security of the same series of authorized denominations in principal amount equal to the unredeemed portion of the Security so presented.

Section 3.04 Sinking Fund.

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

The minimum amount of any sinking fund payment provided for by the terms of Securities of any series is herein referred to as a “mandatory sinking fund payment,” and any payment in excess of such minimum amount provided for by the terms of Securities of any series is herein referred to as an “optional sinking fund payment”. If provided for by the terms of Securities of any series, the cash amount of any sinking fund payment may be subject to reduction as provided in Section 3.05. Each sinking fund payment shall be applied to the redemption of Securities of any series as provided for by the terms of Securities of such series.

Section 3.05 Satisfaction of Sinking Fund Payments with Securities.

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

Section 3.06 Redemption of Securities for Sinking Fund.

Not less than 45 days prior to each sinking fund payment date for any series of Securities (unless a shorter period shall be satisfactory to the Trustee), the Company will deliver to the Trustee an Officers’ Certificate specifying the amount of the next ensuing sinking fund payment for that series pursuant to the terms of the series, the portion thereof, if any, that is to be satisfied by delivering and crediting Securities of that series pursuant to Section 3.05 and the basis for such credit and will, together with such Officers’ Certificate, deliver to the Trustee any Securities to be so delivered. Not less than 30 days before each such sinking fund payment date the Trustee shall select the Securities to be redeemed upon such sinking fund payment date in the manner specified in Section 3.02 and cause notice of the redemption thereof to be given in the name of and at the expense of the Company in the manner provided in Section 3.02. Such notice having been duly given, the redemption of such Securities shall be made upon the terms and in the manner stated in Section 3.03.

ARTICLE 4

COVENANTS

Section 4.01 Payment of Principal, Premium and Interest.

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

Section 4.02 Maintenance of Office or Agency.

So long as any series of the Securities remain Outstanding, the Company agrees to maintain an office or agency in the Borough of Manhattan, the City and State of New York, with respect to each such series and at such other location or locations as may be designated as provided in this Section 4.02, where (i) Securities of that series may be presented for payment, (ii) Securities of that series may be presented as herein above authorized for registration of transfer and exchange, and (iii) notices and demands to or upon the Company in respect of the Securities of that series and this Indenture may be given or served, such designation to continue with respect to such office or agency until the Company shall, by written notice signed by any officer authorized to sign an Officers' Certificate and delivered to the Trustee, designate some other office or agency for such purposes or any of them. If at any time the Company shall fail to maintain any such required office or agency or shall fail to furnish the Trustee with the address thereof, such presentations, notices and demands may be made or served at the Corporate Trust Office of the Trustee, and the Company hereby appoints the Trustee as its agent to receive all such presentations, notices and demands. The Company initially appoints the Corporate Trust Office of the Trustee located in the Borough of Manhattan, the City of New York as its paying agent with respect to the Securities.

Section 4.03 Paying Agents.

(a) If the Company shall appoint one or more paying agents for all or any series of the Securities, other than the Trustee, the Company will cause each such paying agent to execute and deliver to the Trustee an instrument in which such agent shall agree with the Trustee, subject to the provisions of this Section:

(1) that it will hold all sums held by it as such agent for the payment of the principal of (and premium, if any) or interest on the Securities of that series (whether such sums have been paid to it by the Company or by any other obligor of such Securities) in trust for the benefit of the Persons entitled thereto;

(2) that it will give the Trustee notice of any failure by the Company (or by any other obligor of such Securities) to make any payment of the principal of (and premium, if any) or interest on the Securities of that series when the same shall be due and payable;

(3) that it will, at any time during the continuance of any failure referred to in the preceding paragraph (a)(2) above, upon the written request of the Trustee, forthwith pay to the Trustee all sums so held in trust by such paying agent; and

(4) that it will perform all other duties of paying agent as set forth in this Indenture.

(b) If the Company shall act as its own paying agent with respect to any series of the Securities, it will on or before each due date of the principal of (and premium, if any) or interest on Securities of that series, set aside, segregate and hold in trust for the benefit of the Persons entitled thereto a sum sufficient to pay such principal (and premium, if any) or interest so becoming due on Securities of that series until such sums shall be paid to such Persons or otherwise disposed of as herein provided and will promptly notify the Trustee of such action, or any failure (by it or any other obligor on such Securities) to take such action. Whenever the Company shall have one or more paying agents for any series of Securities, it will, prior to each due date of the principal of (and premium, if any) or interest on any Securities of that series, deposit with the paying agent a sum sufficient to pay the principal (and premium, if any) or interest so becoming due, such sum to be held in trust for the benefit of the Persons entitled to such principal, premium or interest, and (unless such paying agent is the Trustee) the Company will promptly notify the Trustee of this action or failure so to act.

(c) Notwithstanding anything in this Section to the contrary, (i) the agreement to hold sums in trust as provided in this Section is subject to the provisions of Section 11.05, and (ii) the Company may at any time, for the purpose of obtaining the satisfaction and discharge of this Indenture or for any other purpose, pay, or direct any paying agent to pay, to the Trustee all sums held in trust by the Company or such paying agent, such sums to be held by the Trustee upon the same terms and conditions as those upon which such sums were held by the Company or such paying agent; and, upon such payment by the Company or any paying agent to the Trustee, the Company or such paying agent shall be released from all further liability with respect to such money.

Section 4.04 Appointment to Fill Vacancy in Office of Trustee.

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

Section 4.05 Compliance with Consolidation Provisions.

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

ARTICLE 5

**SECURITYHOLDERS' LISTS AND REPORTS BY
THE COMPANY AND THE TRUSTEE**

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

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

Section 5.02 Preservation Of Information; Communications With Securityholders.

(a) The Trustee shall preserve, in as current a form as is reasonably practicable, all information as to the names and addresses of the holders of Securities contained in the most recent list furnished to it as provided in Section 5.01 and as to the names and addresses of holders of Securities received by the Trustee in its capacity as Security Registrar (if acting in such capacity).

(b) The Trustee may destroy any list furnished to it as provided in Section 5.01 upon receipt of a new list so furnished.

(c) Securityholders may communicate as provided in Section 312(b) of the Trust Indenture Act with other Securityholders with respect to their rights under this Indenture or under the Securities, and, in connection with any such communications, the Trustee shall satisfy its obligations under Section 312(b) of the Trust Indenture Act in accordance with the provisions of Section 312(b) of the Trust Indenture Act.

Section 5.03 Reports by the Company.

The Company covenants and agrees to provide a copy to the Trustee, after the Company files the same with the Securities and Exchange 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 Securities and Exchange Commission may from time to time by rules and regulations prescribe) that the Company files with the Securities and Exchange Commission pursuant to Section 13 or Section 15(d) of the Exchange Act; provided, however, the Company shall not be required to deliver to the Trustee any materials for which the Company has sought and received confidential treatment by the SEC. The Company shall also comply with the requirements of Section 314 of the Trust Indenture Act, but only to the extent then applicable to the Company.

Section 5.04 Reports by the Trustee.

(a) On or before July 1 in each year in which any of the Securities are Outstanding, the Trustee shall transmit by mail, first class postage prepaid, to the Securityholders, as their names and addresses appear upon the Security Register, a brief report dated as of the preceding May 1, if and to the extent required under Section 313(a) of the Trust Indenture Act.

(b) The Trustee shall comply with Section 313(b) and 313(c) of the Trust Indenture Act.

(c) A copy of each such report shall, at the time of such transmission to Securityholders, be filed by the Trustee with the Company, with each securities exchange upon which any Securities are listed (if so listed) and also with the Securities and Exchange Commission. The Company agrees to notify the Trustee when any Securities become listed on any securities exchange.

ARTICLE 6

REMEDIES OF THE TRUSTEE AND SECURITYHOLDERS ON EVENT OF DEFAULT

Section 6.01 Events of Default.

(a) Whenever used herein with respect to Securities of a particular series, "Event of Default" means any one or more of the following events that has occurred and is continuing:

(1) the Company defaults in the payment of any installment of interest upon any of the Securities of that series, as and when the same shall become due and payable, and such default continues for a period of 90 days; provided, however, that a valid extension of an interest payment period by the Company in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of interest for this purpose;

(2) the Company defaults in the payment of the principal of (or premium, if any, on) any of the Securities of that series as and when the same shall become due and payable whether at maturity, upon redemption, by declaration or otherwise, or in any payment required by any sinking or analogous fund established with respect to that series and such default continues for a period of 90 days; provided, however, that a valid extension of the maturity of such Securities in accordance with the terms of any indenture supplemental hereto shall not constitute a default in the payment of principal or premium, if any;

(3) the Company fails to observe or perform any other of its covenants or agreements with respect to that series contained in this Indenture or otherwise established with respect to that series of Securities pursuant to Section 2.01 hereof (other than a covenant or agreement that has been expressly included in this Indenture solely for the benefit of one or more series of Securities other than such series) for a period of 90 days after the date on which written notice of such failure, requiring the same to be remedied and stating that such notice is a "Notice of Default" hereunder, shall have been given to the Company by the Trustee, by registered or certified mail, or to the Company and the Trustee by the holders of at least 25% in principal amount of the Securities of that series at the time Outstanding;

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

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

(b) In each and every such case (other than an Event of Default specified in clause (4) or clause (5) above), unless the principal of all the Securities of that series shall have already become due and payable, either the Trustee or the holders of not less than 25% in aggregate principal amount of the Securities of that series then Outstanding hereunder, by notice in writing to the Company (and to the Trustee if given by such Securityholders), may declare the principal of (and premium, if any, on) and accrued and unpaid interest on all the Securities of that series to be due and payable immediately, and upon any such declaration the same shall become and shall be immediately due and payable. If an Event of Default specified in clause (4) or clause (5) above occurs, the principal of and accrued and unpaid interest on all the Securities of that series shall automatically be immediately due and payable without any declaration or other act on the part of the Trustee or the holders of the Securities.

(c) At any time after the principal of (and premium, if any, on) and accrued and unpaid interest on the Securities of that series shall have been so declared due and payable, and before any judgment or decree for the payment of the moneys due shall have been obtained or entered as hereinafter provided, the holders of a majority in aggregate principal amount of the Securities of that series then Outstanding hereunder, by written notice to the Company and the Trustee, may rescind and annul such declaration and its consequences if: (i) the Company has paid or deposited with the Trustee a sum sufficient to pay all matured installments of interest upon all the Securities of that series and the principal of (and premium, if any, on) any and all Securities of that series that shall have become due otherwise than by acceleration (with interest upon such principal and premium, if any, and, to the extent that such payment is enforceable under applicable law, upon overdue installments of interest, at the rate per annum expressed in the Securities of that series to the date of such payment or deposit) and the amount payable to the Trustee under Section 7.06, and (ii) any and all Events of Default under the Indenture with respect to such series, other than the nonpayment of principal on (and premium, if any, on) and accrued and unpaid interest on Securities of that series that shall not have become due by their terms, shall have been remedied or waived as provided in Section 6.06.

No such rescission and annulment shall extend to or shall affect any subsequent default or impair any right consequent thereon.

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

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

(a) The Company covenants that (i) in case it shall default in the payment of any installment of interest on any of the Securities of a series, or in any payment required by any sinking or analogous fund established with respect to that series as and when the same shall have become due and payable, and such default shall have continued for a period of 90 Business Days, or (ii) in case it shall default in the payment of the principal of (or premium, if any, on) any of the Securities of a series when the same shall have become due and payable, whether upon maturity of the Securities of a series or upon redemption or upon declaration or otherwise then, upon demand of the Trustee, the Company will pay to the Trustee, for the benefit of the holders of the Securities of that series, the whole amount that then shall have become due and payable on all such Securities for principal (and premium, if any) or interest, or both, as the case may be, with interest upon the overdue principal (and premium, if any) and (to the extent that payment of such interest is enforceable under applicable law) upon overdue installments of interest at the rate per annum expressed in the Securities of that series; and, in addition thereto, such further amount as shall be sufficient to cover the costs and expenses of collection, and the amount payable to the Trustee under Section 7.06.

(b) If the Company shall fail to pay such amounts forthwith upon such demand, the Trustee, in its own name and as trustee of an express trust, shall be entitled and empowered to institute any action or proceedings at law or in equity for the collection of the sums so due and unpaid, and may prosecute any such action or proceeding to judgment or final decree, and may enforce any such judgment or final decree against the Company or other obligor upon the Securities of that series and collect the moneys adjudged or decreed to be payable in the manner provided by law or equity out of the property of the Company or other obligor upon the Securities of that series, wherever situated.

(c) In case of any receivership, insolvency, liquidation, bankruptcy, reorganization, readjustment, arrangement, composition or judicial proceedings affecting the Company, or its creditors or property, the Trustee shall have power to intervene in such proceedings and take any action therein that may be permitted by the court and shall (except as may be otherwise provided by law) be entitled to file such proofs of claim and other papers and documents as may be necessary or advisable in order to have the claims of the Trustee and of the holders of Securities of such series allowed for the entire amount due and payable by the Company under the Indenture at the date of institution of such proceedings and for any additional amount that may become due and payable by the Company after such date, and to collect and receive any moneys or other property payable or deliverable on any such claim, and to distribute the same after the deduction of the amount payable to the Trustee under Section 7.06; and any receiver, assignee or trustee in bankruptcy or reorganization is hereby authorized by each of the holders of Securities of such series to make such payments to the Trustee, and, in the event that the Trustee shall consent to the making of such payments directly to such Securityholders, to pay to the Trustee any amount due it under Section 7.06.

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

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

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

Section 6.03 Application of Moneys or Property Collected.

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

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

SECOND: To the payment of all indebtedness of the Company to which such series of Securities is subordinated to the extent required by Section 7.06 and Article Fourteen;

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

FOURTH: To the payment of the remainder, if any, to the Company or any other Person lawfully entitled thereto, as requested by the Company.

Section 6.04 Limitation on Suits.

No holder of any Security of any series shall have any right by virtue or by availing of any provision of this Indenture to institute any suit, action or proceeding in equity or at law upon or under or with respect to this Indenture or for the appointment of a receiver or trustee, or for any other remedy hereunder, unless (i) such holder previously shall have given to the Trustee written notice of an Event of Default and of the continuance thereof with respect to the Securities of such series specifying such Event of Default, as hereinbefore provided; (ii) the holders of not less than 25% in aggregate principal amount of the Securities of such series then Outstanding shall have made written request upon the Trustee to institute such action, suit or proceeding in its own name as Trustee hereunder; (iii) such holder or holders shall have offered to the Trustee such reasonable indemnity as it may require against the costs, expenses and liabilities to be incurred therein or thereby; (iv) the Trustee for 90 days after its receipt of such notice, request and offer of indemnity, shall have failed to institute any such action, suit or proceeding and (v) during such 90 day period, the holders of a majority in principal amount of the Securities of that series do not give the Trustee a direction inconsistent with the request.

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

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

(a) Except as otherwise provided in Section 2.07, all powers and remedies given by this Article to the Trustee or to the Securityholders shall, to the extent permitted by law, be deemed cumulative and not exclusive of any other powers and remedies available to the Trustee or the holders of the Securities, by judicial proceedings or otherwise, to enforce the performance or observance of the covenants and agreements contained in this Indenture or otherwise established with respect to such Securities.

(b) No delay or omission of the Trustee or of any holder of any of the Securities to exercise any right or power accruing upon any Event of Default occurring and continuing as aforesaid shall impair any such right or power, or shall be construed to be a waiver of any such default or an acquiescence therein; and, subject to the provisions of Section 6.04, every power and remedy given by this Article or by law to the Trustee or the Securityholders may be exercised from time to time, and as often as shall be deemed expedient, by the Trustee or by the Securityholders.

Section 6.06 Control by Securityholders.

The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding, determined in accordance with Section 8.04, shall have the right to direct the time, method and place of conducting any proceeding for any remedy available to the Trustee, or exercising any trust or power conferred on the Trustee with respect to such series; provided, however, that such direction shall not be in conflict with any rule of law or with this Indenture. Subject to the provisions of Section 7.01, the Trustee shall have the right to decline to follow any such direction if the Trustee in good faith shall, by a Responsible Officer or officers of the Trustee, determine that the proceeding so directed, subject to the Trustee's duties under the Trust Indenture Act, would involve the Trustee in personal liability or might be unduly prejudicial to the Securityholders not involved in the proceeding. The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding affected thereby, determined in accordance with Section 8.04, may on behalf of the holders of all of the Securities of such series waive any past default in the performance of any of the covenants contained herein or established pursuant to Section 2.01 with respect to such series and its consequences, except a default in the payment of the principal of, or premium, if any, or interest on, any of the Securities of that series as and when the same shall become due by the terms of such Securities otherwise than by acceleration (unless such default has been cured and a sum sufficient to pay all matured installments of interest and principal and any premium has been deposited with the Trustee (in accordance with Section 6.01(c)). Upon any such waiver, the default covered thereby shall be deemed to be cured for all purposes of this Indenture and the Company, the Trustee and the holders of the Securities of such series shall be restored to their former positions and rights hereunder, respectively; but no such waiver shall extend to any subsequent or other default or impair any right consequent thereon.

Section 6.07 Undertaking to Pay Costs.

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

ARTICLE 7

CONCERNING THE TRUSTEE

Section 7.01 Certain Duties and Responsibilities of Trustee.

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

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

(i) prior to the occurrence of an Event of Default with respect to the Securities of a series and after the curing or waiving of all such Events of Default with respect to that series that may have occurred:

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

(B) in the absence of bad faith on the part of the Trustee, the Trustee may with respect to the Securities of such series conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, upon any certificates or opinions furnished to the Trustee and conforming to the requirements of this Indenture; but in the case of any such certificates or opinions that by any provision hereof are specifically required to be furnished to the Trustee, the Trustee shall be under a duty to examine the same to determine whether or not they conform to the requirement of this Indenture;

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

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

(iv) None of the provisions contained in this Indenture shall require the Trustee to expend or risk its own funds or otherwise incur personal financial liability in the performance of any of its duties or in the exercise of any of its rights or powers if there is reasonable ground for believing that the repayment of such funds or liability is not reasonably assured to it under the terms of this Indenture or adequate indemnity against such risk is not reasonably assured to it.

Section 7.02 Certain Rights of Trustee.

Except as otherwise provided in Section 7.01:

(a) The Trustee may rely conclusively and shall be protected in acting or refraining from acting upon any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security or other paper or document believed by it to be genuine and to have been signed or presented by the proper party or parties;

(b) Any request, direction, order or demand of the Company mentioned herein shall be sufficiently evidenced by a Board Resolution or an instrument signed in the name of the Company by any authorized officer of the Company (unless other evidence in respect thereof is specifically prescribed herein);

(c) The Trustee may consult with counsel and the written advice of such counsel or any Opinion of Counsel shall be full and complete authorization and protection in respect of any action taken or suffered or omitted hereunder in good faith and in reliance thereon;

(d) The Trustee shall be under no obligation to exercise any of the rights or powers vested in it by this Indenture at the request, order or direction of any of the Securityholders pursuant to the provisions of this Indenture, unless such Securityholders shall have offered to the Trustee reasonable security or indemnity against the costs, expenses and liabilities that may be incurred therein or thereby; nothing contained herein shall, however, relieve the Trustee of the obligation, upon the occurrence of an Event of Default with respect to a series of the Securities (that has not been cured or waived), to exercise with respect to Securities of that series such of the rights and powers vested in it by this Indenture, and to use the same degree of care and skill in their exercise, as a prudent man would exercise or use under the circumstances in the conduct of his own affairs;

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

(f) The Trustee shall not be bound to make any investigation into the facts or matters stated in any resolution, certificate, statement, instrument, opinion, report, notice, request, consent, order, approval, bond, security, or other papers or documents, unless requested in writing so to do by the holders of not less than a majority in principal amount of the Outstanding Securities of the particular series affected thereby (determined as provided in Section 8.04); provided, however, that if the payment within a reasonable time to the Trustee of the costs, expenses or liabilities likely to be incurred by it in the making of such investigation is, in the opinion of the Trustee, not reasonably assured to the Trustee by the security afforded to it by the terms of this Indenture, the Trustee may require reasonable indemnity against such costs, expenses or liabilities as a condition to so proceeding. The reasonable expense of every such examination shall be paid by the Company or, if paid by the Trustee, shall be repaid by the Company upon demand; and

(g) The Trustee may execute any of the trusts or powers hereunder or perform any duties hereunder either directly or by or through agents or attorneys and the Trustee shall not be responsible for any misconduct or negligence on the part of any agent or attorney appointed with due care by it hereunder.

In addition, the Trustee shall not be deemed to have knowledge of any Default or Event of Default except (1) any Event of Default occurring pursuant to Sections 6.01(a)(1), 6.01(a)(2) and 4.01 hereof or (2) any Default or Event of Default of which the Trustee shall have received written notification in the manner set forth in this Indenture or a Responsible Officer of the Trustee shall have obtained actual knowledge. Delivery of reports, information and documents to the Trustee under Section 5.03 is for informational purposes only and the information and the Trustee's receipt of the foregoing shall not constitute constructive notice of any information contained therein, or determinable from information contained therein including the Company's compliance with any of their covenants thereunder (as to which the Trustee is entitled to rely conclusively on an Officers' Certificate).

Section 7.03 Trustee Not Responsible for Recitals or Issuance or Securities.

(a) The recitals contained herein and in the Securities shall be taken as the statements of the Company, and the Trustee assumes no responsibility for the correctness of the same.

(b) The Trustee makes no representations as to the validity or sufficiency of this Indenture or of the Securities.

(c) The Trustee shall not be accountable for the use or application by the Company of any of the Securities or of the proceeds of such Securities, or for the use or application of any moneys paid over by the Trustee in accordance with any provision of this Indenture or established pursuant to Section 2.01, or for the use or application of any moneys received by any paying agent other than the Trustee.

Section 7.04 May Hold Securities.

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

Section 7.05 Moneys Held in Trust.

Subject to the provisions of Section 11.05, all moneys received by the Trustee shall, until used or applied as herein provided, be held in trust for the purposes for which they were received, but need not be segregated from other funds except to the extent required by law. The Trustee shall be under no liability for interest on any moneys received by it hereunder except such as it may agree with the Company to pay thereon.

Section 7.06 Compensation and Reimbursement.

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

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

Section 7.07 Reliance on Officers' Certificate.

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

Section 7.08 Disqualification; Conflicting Interests.

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

Section 7.09 Corporate Trustee Required; Eligibility.

There shall at all times be a Trustee with respect to the Securities issued hereunder which shall at all times be a corporation organized and doing business under the laws of the United States of America or any state or territory thereof or of the District of Columbia, or a corporation or other Person permitted to act as trustee by the Securities and Exchange Commission, authorized under such laws to exercise corporate trust powers, having a combined capital and surplus of at least fifty million U.S. dollars (\$50,000,000), and subject to supervision or examination by federal, state, territorial, or District of Columbia authority.

If such corporation or other Person publishes reports of condition at least annually, pursuant to law or to the requirements of the aforesaid supervising or examining authority, then for the purposes of this Section, the combined capital and surplus of such corporation or other Person shall be deemed to be its combined capital and surplus as set forth in its most recent report of condition so published. The Company may not, nor may any Person directly or indirectly controlling, controlled by, or under common control with the Company, serve as Trustee. In case at any time the Trustee shall cease to be eligible in accordance with the provisions of this Section, the Trustee shall resign immediately in the manner and with the effect specified in Section 7.10.

Section 7.10 Resignation and Removal; Appointment of Successor.

(a) The Trustee or any successor hereafter appointed may at any time resign with respect to the Securities of one or more series by giving written notice thereof to the Company and by transmitting notice of resignation by mail, first class postage prepaid, to the Securityholders of such series, as their names and addresses appear upon the Security Register. Upon receiving such notice of resignation, the Company shall promptly appoint a successor trustee with respect to Securities of such series by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the resigning Trustee and one copy to the successor trustee. If no successor trustee shall have been so appointed and have accepted appointment within 30 days after the mailing of such notice of resignation, the resigning Trustee may petition any court of competent jurisdiction for the appointment of a successor trustee with respect to Securities of such series, or any Securityholder of that series who has been a bona fide holder of a Security or Securities for at least six months may on behalf of himself and all others similarly situated, petition any such court for the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, appoint a successor trustee.

(b) In case at any time any one of the following shall occur:

(i) the Trustee shall fail to comply with the provisions of Section 7.08 after written request therefor by the Company or by any Securityholder who has been a bona fide holder of a Security or Securities for at least six months; or

(ii) the Trustee shall cease to be eligible in accordance with the provisions of Section 7.09 and shall fail to resign after written request therefor by the Company or by any such Securityholder; or

(iii) the Trustee shall become incapable of acting, or shall be adjudged a bankrupt or insolvent, or commence a voluntary bankruptcy proceeding, or a receiver of the Trustee or of its property shall be appointed or consented to, or any public officer shall take charge or control of the Trustee or of its property or affairs for the purpose of rehabilitation, conservation or liquidation;

then, in any such case, the Company may remove the Trustee with respect to all Securities and appoint a successor trustee by written instrument, in duplicate, executed by order of the Board of Directors, one copy of which instrument shall be delivered to the Trustee so removed and one copy to the successor trustee, or any Securityholder who has been a bona fide holder of a Security or Securities for at least six months may, on behalf of that holder and all others similarly situated, petition any court of competent jurisdiction for the removal of the Trustee and the appointment of a successor trustee. Such court may thereupon after such notice, if any, as it may deem proper and prescribe, remove the Trustee and appoint a successor trustee.

(c) The holders of a majority in aggregate principal amount of the Securities of any series at the time Outstanding may at any time remove the Trustee with respect to such series by so notifying the Trustee and the Company and may appoint a successor Trustee for such series with the consent of the Company.

(d) Any resignation or removal of the Trustee and appointment of a successor trustee with respect to the Securities of a series pursuant to any of the provisions of this Section shall become effective upon acceptance of appointment by the successor trustee as provided in Section 7.11.

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

Section 7.11 Acceptance of Appointment By Successor.

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

(b) In case of the appointment hereunder of a successor trustee with respect to the Securities of one or more (but not all) series, the Company, the retiring Trustee and each successor trustee with respect to the Securities of one or more series shall execute and deliver an indenture supplemental hereto wherein each successor trustee shall accept such appointment and which (i) shall contain such provisions as shall be necessary or desirable to transfer and confirm to, and to vest in, each successor trustee all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates, (ii) 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, that each such Trustee shall be trustee of a trust or trusts hereunder separate and apart from any trust or trusts hereunder administered by any other such Trustee and that no Trustee shall be responsible for any act or failure to act on the part of any other Trustee hereunder; and upon the execution and delivery of such supplemental indenture the resignation or removal of the retiring Trustee shall become effective to the extent provided therein, such retiring Trustee shall with respect to the Securities of that or those series to which the appointment of such successor trustee relates have no further responsibility for the exercise of rights and powers or for the performance of the duties and obligations vested in the Trustee under this Indenture, and each such successor trustee, without any further act, deed or conveyance, shall become vested with all the rights, powers, trusts and duties of the retiring Trustee with respect to the Securities of that or those series to which the appointment of such successor trustee relates; but, on request of the Company or any successor trustee, such retiring Trustee shall duly assign, transfer and deliver to such successor trustee, to the extent contemplated by such supplemental indenture, the property and money held by such retiring Trustee hereunder with respect to the Securities of that or those series to which the appointment of such successor trustee relates.

(c) Upon request of any such successor trustee, the Company shall execute any and all instruments for more fully and certainly vesting in and confirming to such successor trustee all such rights, powers and trusts referred to in paragraph (a) or (b) of this Section, as the case may be.

(d) No successor trustee shall accept its appointment unless at the time of such acceptance such successor trustee shall be qualified and eligible under this Article.

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

Section 7.12 Merger, Conversion, Consolidation or Succession to Business.

Any corporation into which the Trustee may be merged or converted or with which it may be consolidated, or any corporation resulting from any merger, conversion or consolidation to which the Trustee shall be a party, or any corporation succeeding to the corporate trust business of the Trustee, shall be the successor of the Trustee hereunder, provided that such corporation shall be qualified under the provisions of Section 7.08 and eligible under the provisions of Section 7.09, without the execution or filing of any paper or any further act on the part of any of the parties hereto, anything herein to the contrary notwithstanding. In case any Securities shall have been authenticated, but not delivered, by the Trustee then in office, any successor by merger, conversion or consolidation to such authenticating Trustee may adopt such authentication and deliver the Securities so authenticated with the same effect as if such successor Trustee had itself authenticated such Securities.

Section 7.13 Preferential Collection of Claims Against the Company.

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

Section 7.14 Notice of Default

If any Default or any Event of Default occurs and is continuing and if such Default or Event of Default is known to a Responsible Officer of the Trustee, the Trustee shall mail to each Securityholder in the manner and to the extent provided in Section 313(c) of the Trust Indenture Act notice of the Default or Event of Default within 45 days after it occurs and becomes known to the Trustee, unless such Default or Event of Default has been cured; *provided, however*, that, except in the case of a default in the payment of the principal of (or premium, if any) or interest on any Security, the Trustee shall be protected in withholding such notice if and so long as the board of directors, the executive committee or a trust committee of directors and/or Responsible Officers of the Trustee in good faith determine that the withholding of such notice is in the interest of the Securityholders.

ARTICLE 8

CONCERNING THE SECURITYHOLDERS

Section 8.01 Evidence of Action by Securityholders.

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

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

Section 8.02 Proof of Execution by Securityholders.

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

- (a) The fact and date of the execution by any such Person of any instrument may be proved in any reasonable manner acceptable to the Trustee.
- (b) The ownership of Securities shall be proved by the Security Register of such Securities or by a certificate of the Security Registrar thereof.

The Trustee may require such additional proof of any matter referred to in this Section as it shall deem necessary.

Section 8.03 Who May be Deemed Owners.

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

Section 8.04 Certain Securities Owned by Company Disregarded.

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

Section 8.05 Actions Binding on Future Securityholders.

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

ARTICLE 9

SUPPLEMENTAL INDENTURES

Section 9.01 Supplemental Indentures Without the Consent of Securityholders.

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

- (a) to cure any ambiguity, defect, or inconsistency herein or in the Securities of any series;
- (b) to comply with Article Ten;

(c) to provide for uncertificated Securities in addition to or in place of certificated Securities and to make all appropriate changes for such purpose;

(d) to add to the covenants, restrictions, conditions or provisions relating to the Company for the benefit of the holders of all or any series of Securities (and if such covenants, restrictions, conditions or provisions are to be for the benefit of less than all series of Securities, stating that such covenants, restrictions, conditions or provisions are expressly being included solely for the benefit of such series), to make the occurrence, or the occurrence and the continuance, of a default in any such additional covenants, restrictions, conditions or provisions an Event of Default, or to surrender any right or power herein conferred upon the Company;

(e) to add to, delete from, or revise the conditions, limitations, and restrictions on the authorized amount, terms, or purposes of issue, authentication, and delivery of Securities, as herein set forth;

(f) to make any change that does not adversely affect the rights of any Securityholder in any material respect;

(g) to provide for the issuance of and establish the form and terms and conditions of the Securities of any series as provided in Section 2.01, to establish the form of any certifications required to be furnished pursuant to the terms of this Indenture or any series of Securities, or to add to the rights of the holders of any series of Securities;

(h) to evidence and provide for the acceptance of appointment hereunder by a successor trustee; or

(i) to comply with any requirements of the Securities and Exchange Commission or any successor in connection with the qualification of this Indenture under the Trust Indenture Act.

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

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

Section 9.02 Supplemental Indentures With Consent of Securityholders.

With the consent (evidenced as provided in Section 8.01) of the holders of not less than a majority in aggregate principal amount of the Securities of each series affected by such supplemental indenture or indentures at the time Outstanding, the Company, when authorized by a Board Resolution, and the Trustee may from time to time and at any time enter into an indenture or indentures supplemental hereto (which shall conform to the provisions of the Trust Indenture Act as then in effect) for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Indenture or of any supplemental indenture or of modifying in any manner not covered by Section 9.01 the rights of the holders of the Securities of such series under this Indenture; provided, however, that no such supplemental indenture shall, without the consent of the holders of each Security of the series affected by such supplement indenture then Outstanding and affected thereby, (a) extend the fixed maturity of any Securities of any series, or reduce the principal amount thereof, or reduce the rate or extend the time of payment of interest thereon, or reduce any premium payable upon the redemption thereof or (b) reduce the aforesaid percentage of Securities, the holders of which are required to consent to any such supplemental indenture.

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

Section 9.03 Effect of Supplemental Indentures.

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

Section 9.04 Securities Affected by Supplemental Indentures.

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

Section 9.05 Execution of Supplemental Indentures.

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

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

ARTICLE 10

SUCCESSOR ENTITY

Section 10.01 Company May Consolidate, Etc.

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

Section 10.02 Successor Entity Substituted.

(a) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition and upon the assumption by the successor entity by supplemental indenture, executed and delivered to the Trustee and satisfactory in form to the Trustee, of the obligations set forth under Section 10.01 on all of the Securities of all series Outstanding, such successor entity shall succeed to and be substituted for the Company with the same effect as if it had been named as the Company herein, and thereupon the predecessor corporation shall be relieved of all obligations and covenants under this Indenture and the Securities.

(b) In case of any such consolidation, merger, sale, conveyance, transfer or other disposition, such changes in phraseology and form (but not in substance) may be made in the Securities thereafter to be issued as may be appropriate.

(c) Nothing contained in this Article shall require any action by the Company in the case of a consolidation or merger of any Person into the Company where the Company is the survivor of such transaction, or the acquisition by the Company, by purchase or otherwise, of all or any part of the property of any other Person (whether or not affiliated with the Company).

Section 10.03 Evidence of Consolidation, Etc. to Trustee.

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

ARTICLE 11

SATISFACTION AND DISCHARGE

Section 11.01 Satisfaction and Discharge of Indenture.

If at any time: (a) the Company shall have delivered to the Trustee for cancellation all Securities of a series theretofore authenticated and not delivered to the Trustee for cancellation (other than any Securities that shall have been destroyed, lost or stolen and that shall have been replaced or paid as provided in Section 2.07 and Securities for whose payment money or Governmental Obligations have theretofore been deposited in trust or segregated and held in trust by the Company and thereupon repaid to the Company or discharged from such trust, as provided in Section 11.05); or (b) all such Securities of a particular series not theretofore delivered to the Trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year under arrangements satisfactory to the Trustee for the giving of notice of redemption, and the Company shall deposit or cause to be deposited with the Trustee as trust funds the entire amount in moneys or Governmental Obligations or a combination thereof, sufficient in the opinion of a nationally recognized firm of independent public accountants expressed in a written certification thereof delivered to the Trustee, to pay at maturity or upon redemption all Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder with respect to such series by the Company then this Indenture shall thereupon cease to be of further effect with respect to such series except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03 and 7.10, that shall survive until the date of maturity or redemption date, as the case may be, and Sections 7.06 and 11.05, that shall survive to such date and thereafter, and the Trustee, on demand of the Company and at the cost and expense of the Company shall execute proper instruments acknowledging satisfaction of and discharging this Indenture with respect to such series.

Section 11.02 Discharge of Obligations.

If at any time all such Securities of a particular series not heretofore delivered to the Trustee for cancellation or that have not become due and payable as described in Section 11.01 shall have been paid by the Company by depositing irrevocably with the Trustee as trust funds moneys or an amount of Governmental Obligations sufficient to pay at maturity or upon redemption all such Securities of that series not theretofore delivered to the Trustee for cancellation, including principal (and premium, if any) and interest due or to become due to such date of maturity or date fixed for redemption, as the case may be, and if the Company shall also pay or cause to be paid all other sums payable hereunder by the Company with respect to such series, then after the date such moneys or Governmental Obligations, as the case may be, are deposited with the Trustee the obligations of the Company under this Indenture with respect to such series shall cease to be of further effect except for the provisions of Sections 2.03, 2.05, 2.07, 4.01, 4.02, 4.03, 7.05, 7.10 and 11.05 hereof that shall survive until such Securities shall mature and be paid.

Thereafter, Sections 7.06 and 11.05 shall survive.

Section 11.03 Deposited Moneys to be Held in Trust.

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

Section 11.04 Payment of Moneys Held by Paying Agents.

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

Section 11.05 Repayment to Company.

Any moneys or Governmental Obligations deposited with any paying agent or the Trustee, or then held by the Company, in trust for payment of principal of or premium, if any, or interest on the Securities of a particular series that are not applied but remain unclaimed by the holders of such Securities for at least two years after the date upon which the principal of (and premium, if any) or interest on such Securities shall have respectively become due and payable, or such other shorter period set forth in applicable escheat or abandoned or unclaimed property law, shall be repaid to the Company on May 31 of each year or upon the Company's request or (if then held by the Company) shall be discharged from such trust; and thereupon the paying agent and the Trustee shall be released from all further liability with respect to such moneys or Governmental Obligations, and the holder of any of the Securities entitled to receive such payment shall thereafter, as a general creditor, look only to the Company for the payment thereof.

ARTICLE 12

IMMUNITY OF INCORPORATORS, SHAREHOLDERS, OFFICERS AND DIRECTORS

Section 12.01 No Recourse.

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

ARTICLE 13

MISCELLANEOUS PROVISIONS

Section 13.01 Effect on Successors and Assigns.

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

Section 13.02 Actions by Successor.

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

Section 13.03 Surrender of Company Powers.

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

Section 13.04 Notices.

Except as otherwise expressly provided herein, any notice, request or demand that by any provision of this Indenture is required or permitted to be given, made or served by the Trustee or by the holders of Securities or by any other Person pursuant to this Indenture to or on the Company may be given or served and shall be deemed to have been duly given or made on (a) delivery thereof, if by hand; (b) upon receipt, if sent by mail (registered or certified mail, postage prepaid, return receipt requested); (c) on the second Business Day following deposit, if sent by a recognized overnight delivery service; or (d) upon transmission, if sent by facsimile transmission (in each case with receipt verified by electronic confirmation), as follows: 17th Floor, Guangdong Investment Tower, 148 Connaught Road Central, Hong Kong, facsimile number: [+852 2850 7286], email: [finance@aporumgroup.com], with a copy which shall not constitute notice to Hunter Taubman Fischer & Li, 1450 Broadway 26th Floor, New York, New York 10018, Attn: Louis Taubman, Esq., facsimile number: (212)202-6380, email: ltaubman@htflawyers.com. Any notice, election, request or demand by the Company or any Securityholder or by any other Person pursuant to this Indenture to or upon the Trustee shall be deemed to have been sufficiently given or made, for all purposes, if given or made in writing at the Corporate Trust Office of the Trustee.

Section 13.05 Governing Law.

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

Section 13.06 Treatment of Securities as Debt.

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

Section 13.07 Certificates and Opinions as to Conditions Precedent.

(a) Upon any application or demand by the Company to the Trustee to take any action under any of the provisions of this Indenture, the Company shall furnish to the Trustee an Officers' Certificate stating that all conditions precedent provided for in this Indenture (other than the certificate to be delivered pursuant to Section 13.13) relating to the proposed action have been complied with and an Opinion of Counsel stating that in the opinion of such counsel all such conditions precedent have been complied with, except that in the case of any such application or demand as to which the furnishing of such documents is specifically required by any provision of this Indenture relating to such particular application or demand, no additional certificate or opinion need be furnished.

(b) Each certificate or opinion provided for in this Indenture and delivered to the Trustee with respect to compliance with a condition or covenant in this Indenture shall include (i) a statement that the Person making such certificate or opinion has read such covenant or condition; (ii) 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; (iii) a statement that, in the opinion of such Person, he has made such examination or investigation as is reasonably necessary to enable him to express an informed opinion as to whether or not such covenant or condition has been complied with; and (iv) a statement as to whether or not, in the opinion of such Person, such condition or covenant has been complied with.

Section 13.08 Payments on Business Days.

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

Section 13.09 Conflict with Trust Indenture Act.

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

Section 13.10 Indenture and Securities Solely Corporate Obligations.

No recourse for the payment of the principal of, premium, if any, or interest on any Securities, or for any claim based thereon or otherwise in respect thereof, and no recourse under or upon any obligation, covenant or agreement of the Company in this Indenture or in any supplemental indenture or in any Security, or because of the creation of any indebtedness represented thereby, shall be had against any incorporator, shareholder, employee, agent, officer, director or subsidiary, as such, past, present or future, of the Company or of any successor entity, either directly or through the Company or any successor entity, whether by virtue of any constitution, statute, or rule of law, or by the enforcement of any assessment or penalty or otherwise; it being expressly understood that all such liability is hereby expressly waived and released as a condition of, and as a consideration for, the execution of this Indenture and the issuance of the Securities.

Section 13.11 Counterparts.

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

Section 13.12 Separability.

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

Section 13.13 Compliance Certificates.

The Company shall deliver to the Trustee, within 120 days after the end of each fiscal year during which any Securities of any series were outstanding, a compliance certificate stating whether or not the signer knows of any Default or Event of Default that occurred during such fiscal year. Such certificate shall contain a certification from the principal executive officer, principal financial officer or principal accounting officer of the Company that a review has been conducted of the activities of the Company and the Company's performance under this Indenture and that the Company has complied with all conditions and covenants under this Indenture. For purposes of this Section 13.13, such compliance shall be determined without regard to any period of grace or requirement of notice provided under this Indenture. If the officer of the Company signing such certificate has knowledge of such a Default or Event of Default, the certificate shall describe any such Default or Event of Default and its status.

ARTICLE 14

SUBORDINATION OF SECURITIES

Section 14.01 Subordination Terms.

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

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

APTORUM GROUP LIMITED

By: _____
Name: _____
Title: _____

[TRUSTEE], as Trustee

By: _____
Name: _____
Title: _____

CROSS-REFERENCE TABLE (1)

Section of Trust Indenture Act Of 1939, as Amended	Section of Indenture
310(a)	7.09
310(b)	7.08
	7.10
310(c)	Inapplicable
311(a)	7.13
311(b)	7.13
311(c)	Inapplicable
312(a)	5.01
	5.02(a)
312(b)	5.02(c)
312(c)	5.02(c)
313(a)	5.04(a)
313(b)	5.04(b)
313(c)	5.04(a)
	5.04(b)
313(d)	5.04(c)
314(a)	5.03
	13.12
314(b)	Inapplicable
314(c)	13.07(a)
314(d)	Inapplicable
314(e)	13.07(b)
314(f)	Inapplicable
315(a)	7.01(a)
	7.01(b)
315(b)	7.14
315(c)	7.01
315(d)	7.01(b)
315(e)	6.07
316(a)	6.06
	8.04
316(b)	6.04
316(c)	8.01
317(a)	6.02
317(b)	4.03
318(a)	13.09

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

By Email

Aptorum Group Limited
Floor 4, Willow House,
Cricket Square,
Grand Cayman, KY1-9010
Cayman Islands

Floor 4, Willow House, Cricket Square
Grand Cayman
KY1-9010
Cayman Islands

D +1 345 914 5845
T +1 345 949 2648
F +1 345 949 8613
E rlaws@campbellslegal.com **or**
dmagee@campbellslegal.com

campbellslegal.com

Our Ref: RCS/RML/12574-17506
Your Ref:

CAYMAN | BVI | HONG KONG

6 January 2020

Dear Sirs

Aptorum Group Limited – Listing of Class A Ordinary Shares, Preferred Shares, Warrants, Debt Securities and Units

We have acted as Cayman Islands legal advisers to Aptorum Group Limited (the “**Company**”), a Cayman Islands exempted company, in connection with the Company’s registration and offerings of any combination of Class A Ordinary Shares, Preferred Shares, Warrants, Debt Securities and Units (“**Registered Securities**”), having an aggregate offering price of US\$100,000,000 or such lesser aggregate amount permitted under General Instruction I.B.5 to Form F-3 under the Securities Act through a Registration Statement on Form F-3 (the “**Registration Statement**”), filed with the Securities and Exchange Commission under the U.S. Securities Act of 1933, as amended to date (the “**Act**”), as to which this opinion is a part, to be filed with the United States Securities and Exchange Commission (the “**Commission**”).

In giving this opinion we have relied upon the Director’s Certificate (as defined below) which certifies the following information which has been provided to us:

- A As part of the corporate actions taken and to be taken in connection with the issuance and sale of the Registered Securities (the “Corporate Proceedings”), the Company has informed us that before the Registered Securities are issued and sold under the Registration Statement, the board of directors of the Company (the “Board”) will authorise the issuance and approve the terms of any Registered Securities to be issued and sold from time to time under the Registration Statement, and, in relation to any Preferred Shares effect any necessary amendments to the A&R Memorandum and Articles (as defined below), in each case in a form acceptable to us and Cayman Islands law, and such applicable Corporate Proceedings (hereinafter referred to as the “Board Authorisations”) shall be in full force and effect at the time of any such issuance and sale.
- B The Company has informed us that the Registered Securities will be sold or delivered on a delayed or continuous basis from time to time as set forth in the Registration Statement (and any amendments and/or supplement thereto), the prospectus contained therein and any prospectus supplement. We have been informed by the Company that prior to the sale of any Registered Securities under the Registration Statement, the Company will afford us an opportunity to review drafts of the applicable Board Authorisations and, if necessary, amendments to the A&R Memorandum and Articles and operative documents pursuant to which such Registered Securities are to be sold (“**Operative Documents**” and together with the Board Authorisations and amendments to the A&R Memorandum and Articles the “**Documents**”) prior to the execution of any such Documents, and the Company will either make any such amendments to the Documents as may be required by Campbells or file any applicable amendment and/or supplement to the Registration Statement (which may include as an exhibit thereto an amended opinion) or prospectus supplement as we may reasonably consider necessary or appropriate by reason of the terms of the sale of such Registered Securities (“**Cayman Review**”).
-

1 Assumptions

1.1 The following opinions are given only as to, and based on, circumstances and matters of fact existing and known to us on the date of this opinion letter. These opinions only relate to the laws of the Cayman Islands which are in force on the date of this opinion letter. In giving these opinions we have relied (without further verification) upon the completeness and accuracy of the Resolutions, the Shareholder Resolutions and the Certificate of Good Standing (each as defined below). We have also relied upon the following assumptions, which we have not independently verified:

- (a) Copies of documents, conformed copies or drafts of documents provided to us are true and complete copies of, or in the final forms of, the originals, and translations of documents provided to us are complete and accurate;
- (b) All signatures, initials and seals are genuine;
- (c) There is nothing under any law (other than the laws of the Cayman Islands) which would or might affect the opinions expressed herein;
- (d) The A&R Memorandum and Articles remain in full force and effect and are unamended;
- (e) The Resolutions and the Shareholder Resolutions were duly passed in the manner prescribed in the A&R Memorandum and Articles and the resolutions contained in the Resolutions and the Shareholder Resolutions are in full force and effect at the date hereof and have not been amended, varied or revoked in any respect;
- (f) The authorised shares of the Company as set out in the A&R Memorandum and Articles have not been amended; and
- (g) The minute book and corporate records of the Company as maintained at its registered office in the Cayman Islands are complete and accurate in all material respects, and all minutes and resolutions filed therein represent a complete and accurate record of all meetings of the shareholders and directors (or any committee thereof) (duly convened in accordance with the then effective Memorandum and Articles of Association of the Company) and all resolutions passed at the meetings, or passed by written consent as the case may be.

1.2 In this opinion the term “**Circumstances are Unchanged**” means there have been (i) no changes to Cayman Islands statute law, jurisprudence or regulatory guidance, (ii) no changes to any of the Company’s corporate documents referred to in this opinion, and (iii) no breach of any assumption or qualification in this opinion, in the period between the issuance of this opinion and the execution of the relevant document in each case.

2 Documents Reviewed

2.1 We have reviewed originals, copies, drafts or conformed copies of the following documents and such other documents or instruments as we deem necessary:

- (a) A copy of the Registration Statement as provided and to be filed with the Commission on or about the date of this opinion;
- (b) A copy of the certificate of incorporation issued by the Registrar of Companies in the Cayman Islands on 13 September 2010;
- (c) A copy of the Company’s certificate of incorporation on change of name issued by the Registrar of Companies in the Cayman Islands on 3 March 2017;
- (d) A copy of the certificate of incorporation of change of name issued by the Registrar of Companies in the Cayman Islands dated 19 October 2017;
- (e) A copy of the statutory registers of directors and officers, members, mortgages and charges of the Company as maintained at its registered office in the Cayman Islands, reviewed by Campbells Corporate Services Limited on 18 December 2019;
- (f) A copy of the second amended and restated Memorandum and Articles of Association of the Company adopted by the Shareholder Resolutions on 13 October 2017 and filed with the Registrar of Companies (the “**A&R Memorandum and Articles**”);
- (g) Certificate of Good Standing in respect of the Company issued by the Registrar of Companies in the Cayman Islands dated 7 November 2019 (the “**Certificate of Good Standing**”);
- (h) Copies of the written resolutions of the Board dated 27 November 2018, 30 May 2018, 27 March 2018, 3 April 2018, 9 October 2017, 17 September 2017, 18 April 2019, 12 November 2019 and 17 December 2019 (together, the “**Resolutions**”);
- (i) A copy of the shareholder resolutions of the Company dated 3 October 2017 (the “**Shareholder Resolutions**”); and
- (j) A certificate provided by a director of the Company dated 6 January 2020 confirming the matters set out in paragraphs (A) and (B) on page 1 above (“**Director’s Certificate**”).
- (k) The records of proceedings of the Company on file with, and available for inspection on 3 January 2020, at the Grand Court of the Cayman Islands.

3 Opinion

Based upon the foregoing and subject to the qualifications set out below and having regard to such legal considerations as we deem relevant, we are of the opinion that:

- 3.1 The Company has been duly incorporated as an exempted company with limited liability and is validly existing and in good standing with the Registrar of Companies under the laws of the Cayman Islands.
- 3.2 The issue and allotment of the Registered Securities has been duly authorised, and when allotted, issued and paid for as contemplated as described in the Registration Statement, the Registered Securities will be legally issued and allotted, fully paid and non-assessable. As a matter of Cayman Islands law, a share is only issued when it has been entered in the register of members (shareholders).
- 3.3 When (a) the applicable Warrants have been duly authorised by the Company; (b) the final terms of the Warrants have been duly established and approved by the appropriate Board Authorisations; (c) the applicable Warrants have been duly executed by the Company and countersigned or authenticated in accordance with the applicable warrant agreement and that such execution and delivery, and the performance of the obligations therein contained is within the capacity and powers of, and will constitute the legal, valid, binding and enforceable obligations of the respective counterparties thereto in accordance with its terms (the “**Warrant Agreement**”) and delivered to and paid for by the purchasers thereof as contemplated by the Registration Statement (including any amendments and/or supplement thereto) and any prospectus supplements relating thereto, and as contemplated by the applicable Board Authorisations or other corporate proceedings, (d) satisfactory Cayman Review and (e) the Circumstances are Unchanged, such Warrants would constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms.
- 3.4 When a Warrant Agreement as contemplated by the Registration Statement (including any amendments and/or supplement thereto) and any prospectus supplements relating thereto, and by the applicable Board Authorisations or other corporate proceedings, has been duly authorised, executed and delivered by the Company, and assuming due execution and delivery by the warrant agent and that such execution and delivery, and the performance of the obligations therein contained is within the capacity and powers of, and will constitute the legal, valid, binding and enforceable obligations of the respective counterparties thereto in accordance with its terms, such Warrant Agreement and satisfactory Cayman Review and the Circumstances are Unchanged, would constitute a valid and legally binding obligation of the Company, enforceable against the Company in accordance with its terms.
- 3.5 When (a) the applicable Units have been duly authorised by applicable Board Authorisation; (b) the final terms of the Units have been duly established and approved; and (c) the applicable Units have been duly executed by the Company and countersigned or authenticated in accordance with the applicable unit agreement and delivered to and paid for by the purchasers thereof as contemplated by the Registration Statement and that such execution and delivery, and the performance of the obligations therein contained is within the capacity and powers of, and will constitute the legal, valid, binding and enforceable obligations of the respective counterparties thereto in accordance with its terms (including any amendments and/or supplement thereto) and any prospectus supplements relating thereto, and as contemplated by the applicable Board Authorisations or other corporate proceedings, satisfactory Cayman Review and the Circumstances are Unchanged, such Units would constitute valid and legally binding obligations of the Company, enforceable against the Company in accordance with their terms.

3.6 With respect to each issue of the Debt Securities, when (a) the Company's Board has taken all necessary corporate action to approve the creation and terms of the Debt Securities and to approve the issue thereof, the terms of the offering thereof and related matters; (b) an Indenture relating to the Debt Securities and the Debt Securities shall have been authorised and duly executed and unconditionally delivered by and on behalf of the Company and all the relevant parties thereunder in accordance with all relevant laws and that such execution and delivery, and the performance of the obligations therein contained is within the capacity and powers of, and will constitute the legal, valid, binding and enforceable obligations of the respective counterparties thereto in accordance with its terms; (c) when such Debt Securities issued thereunder have been duly executed and delivered on behalf of the Company and authenticated in the manner set forth in the Indenture relating to such issue of Debt Securities and delivered against due payment therefor pursuant to, and in accordance with, the terms of the Registration Statement and any relevant prospectus supplement, (d) satisfactory Cayman Review and (e) the Circumstances are Unchanged, such Debt Securities would constitute valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

4 Qualifications

The opinions hereinbefore given are subject to the following qualifications:

4.1 The term "enforceable" as used above means that the obligations assumed by the Company under the document are of a type which the courts of the Cayman Islands enforce. It does not mean that those obligations will necessarily be enforced in all circumstances in accordance with their terms. In particular:

- (a) enforcement may be limited by bankruptcy, insolvency, liquidation, reorganization and other laws of general application relating to or affecting the rights of creditors;
- (b) enforcement may be limited by general principles of equity;
- (c) claims may become barred under statutes of limitation or may be or become subject to defences of set-off or counterclaim;
- (d) where obligations are to be performed in a jurisdiction outside the Cayman Islands, they may not be enforceable inside the Cayman Islands to the extent that performance would be illegal under the laws that jurisdiction;
- (e) an award of a court of the Cayman Islands may be required to be made in Cayman Islands dollars;
- (f) to the extent that any provision of the document is adjudicated to be penal in nature, it will not be enforceable in the courts of the Cayman Islands; in particular, the enforceability of any provision of the document which imposes additional obligations in the event of any breach or default, or of payment or repayment being made other than on an agreed date, may be limited to the extent that it is subsequently adjudicated to be penal in nature and not an attempt to make a reasonable pre-estimate of loss;

(g) to the extent that the performance of any obligation arising under the document would be fraudulent or contrary to public policy, it will not be enforceable in the courts of the Cayman Islands; and

(h) a Cayman Islands court will not necessarily award costs in litigation in accordance with contractual provisions in this regard.

4.2 We make no comment with respect to any representations and warranties which may be made by or with respect to the Company in any of the documents or instruments cited in this opinion or otherwise with respect to the commercial terms of the transactions the subject of this opinion.

4.3 In this opinion, the phrase “non-assessable” means, with respect to the Registered Securities, that a shareholder shall not, solely by virtue of its status as a shareholder, be liable for additional assessments or calls on the Registered Securities by the Company or its creditors (except in exceptional circumstances, such as involving fraud, the establishment of an agency relationship or an illegal or improper purpose or other circumstance in which a court may be prepared to pierce or lift the corporate veil).

4.4 To maintain the Company in good standing under the laws of the Cayman Islands, annual filing fees must be paid and returns made to the Registrar of Companies within the time frame prescribed by law.

We hereby consent to filing of this opinion as an exhibit to the Registration Statement and to the reference to our name under the heading “Enforcement of Civil Liabilities” and “Legal matters” and elsewhere in the Registration Statement. In giving our consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder, with respect to any part of the Registration Statement, including this opinion and an exhibit or otherwise.

Yours faithfully

/s/ Campbells

Campbells



INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM'S CONSENT

We consent to the incorporation by reference in this Registration Statement of Aptorum Group Limited (the "Company") on Form F-3 of our report dated April 15, 2019, with respect to our audits of the consolidated balance sheets (successor basis) of the Company as of December 31, 2018 and 2017, the related consolidated statements (successor basis) of operations and comprehensive loss, equity and cash flows for the year ended December 31, 2018 and the period March 1, 2017 through December 31, 2017, and the statements (predecessor basis) of operations, changes in net assets and cash flows for the period January 1, 2017 through February 28, 2017 appearing in the Annual Report on Form 20-F of Aptorum Group Limited for the year ended December 31, 2018. We also consent to the reference to our firm under the heading "Experts" in the Prospectus, which is part of this Registration Statement.

/s/ Marcum Bernstein & Pinchuk LLP

Marcum Bernstein & Pinchuk LLP
New York, New York
January 6, 2020



NEW YORK OFFICE • 7 Penn Plaza • Suite 830 • New York, New York • 10001
Phone 646.442.4845 • Fax 646.349.5200 • www.marcumbp.com