AES CORP Form DEF 14A March 10, 2010 Table of Contents

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 14A

Proxy Statement Pursuant to Section 14(a) of the

Securities Exchange Act of 1934

| | Securities Exchange Act of 1934 | |
|--------------------------------------|--|--|
| by the Registrant x | Filed by a Party other than the Registrant " | |
| Check the appropriate box: | | |
| | | |
| Preliminary Proxy Statement | | |
| Confidential, for Use of the Comn | nission Only (as permitted by Rule 14a-6(e)(2)) | |
| Definitive Proxy Statement | | |
| Definitive Additional Materials | | |
| Soliciting Material Pursuant to §240 | THE AES CORPORATION | |
| | Preliminary Proxy Statement Confidential, for Use of the Comm Definitive Proxy Statement | |

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

| No f | ee required. |
|---------------|--|
| Fee o | computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11. |
| (1) | Title of each class of securities to which transaction applies: |
| (2) | Aggregate number of securities to which transaction applies: |
| (3) | Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined): |
| (4) | Proposed maximum aggregate value of transaction: |
| (5) | Total fee paid: |
| | |
| Fee p | paid previously with preliminary materials. |
| Chec was j | ck box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee paid previously. Identify the previous filing by registration statement number, or the Form or Schedule and the date of its filing. |
| (1) | Amount Previously Paid: |
| (2) | Form, Schedule or Registration Statement No.: |
| (3) | Filing Party: |

(4) Date Filed:

Persons who are to respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB control number.

NOTICE OF 2010 ANNUAL MEETING OF STOCKHOLDERS OF THE AES CORPORATION

TO BE HELD ON THURSDAY, APRIL 22, 2010

March 10, 2010

TO THE HOLDERS OF COMMON STOCK OF THE AES CORPORATION:

The 2010 Annual Meeting of Stockholders of The AES Corporation (the Company or AES) will be held on Thursday, April 22, 2010, at 9:30 a.m. EDT in the Rotunda Conference Room on the 9th floor of the Company s corporate offices located at 4300 Wilson Boulevard, Arlington, Virginia. Doors to the Annual Meeting will open at 8:30 a.m.

At the Annual Meeting, Stockholders will vote on the following matters:

- 1. The election of ten members to the Board of Directors;
- 2. The reapproval of The AES Corporation 2003 Long Term Compensation Plan, As Amended;
- 3. The reapproval of The AES Corporation Performance Incentive Plan, As Amended;
- 4. The ratification of Ernst & Young LLP (E&Y or the Independent Registered Public Accounting Firm) of the Company for the year 2010; and
- 5. Such other business as may properly come before the Annual Meeting. Stockholders of record at the close of business on March 8, 2010 are entitled to notice of, and to vote at, the Annual Meeting.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE STOCKHOLDER MEETING TO BE HELD ON THURSDAY, APRIL 22, 2010:

The Proxy Statement, Annual Report on Form 10-K and related proxy materials are available at the following sites: for beneficial holders of AES stock, the site address is www.edocumentview.com/aes; and for registered holders of AES stock, the site address is www.envisionreports.com/aes.

Brian A. Miller

Executive Vice President, General Counsel

and Corporate Secretary

EACH STOCKHOLDER IS REQUESTED TO EXECUTE AND PROMPTLY RETURN THE ENCLOSED PROXY CARD. A PREPAID ENVELOPE IS ENCLOSED FOR RETURNING PROXY CARDS. ALTERNATIVELY, STOCKHOLDERS MAY VOTE BY TELEPHONE OR VIA THE INTERNET (SEE DIRECTIONS ON THE ENCLOSED PROXY CARD). ANY STOCKHOLDER SUBMITTING A PROXY CARD HAS THE POWER TO REVOKE THE VOTE SET FORTH IN SUCH PROXY CARD AT ANY TIME PRIOR TO THE SUBMISSION OF VOTES AT THE ANNUAL MEETING. STOCKHOLDERS WHO ARE PRESENT AT THE ANNUAL MEETING MAY WITHDRAW THEIR PROXY AND VOTE IN PERSON. TO ENSURE THAT YOUR VOTE WILL

BE COUNTED, PLEASE CAST YOUR VOTE BEFORE 1:00 AM (EDT) ON APRIL 22, 2010.

Table of Contents

TABLE OF CONTENTS

| NOTICE OF ANNUAL MEETING | 1 |
|---|-----|
| TABLE OF CONTENTS | 2 |
| PROXY STATEMENT | 3 |
| Questions and Answers Regarding the Proxy Statement and Annual Meeting | 3 |
| PROPOSAL 1: ELECTION OF DIRECTORS. | 5 |
| ABOUT THE BOARD | 9 |
| EXECUTIVE COMPENSATION | 15 |
| Compensation Discussion and Analysis | 15 |
| Report of the Compensation Committee | 33 |
| Summary Compensation Table | 33 |
| Grants of Plan-Based Awards Table | 35 |
| Narrative Disclosure Relating to the Summary Compensation Table and the Grants of Plan-Based Awards Table | 36 |
| Outstanding Equity Awards at Fiscal Year End | 38 |
| Option Exercises and Stock Vested | 40 |
| Nonqualified Deferred Compensation | 40 |
| Narrative Disclosure Relating to the Nonqualified Deferred Compensation Table | 42 |
| Potential Payments Upon Termination or Change-in-Control | 44 |
| Information About our Compensation Committee | 53 |
| Compensation of Directors | 55 |
| TRANSACTIONS WITH RELATED PERSONS | 58 |
| PROPOSAL 2: REAPPROVAL OF THE 2003 LONG TERM COMPENSATION PLAN | 59 |
| PROPOSAL 3: REAPPROVAL OF THE AES CORPORATION PERFORMANCE INCENTIVE PLAN | 72 |
| PROPOSAL 4: RATIFICATION OF THE APPOINTMENT OF AUDITORS | 74 |
| REPORT OF THE FINANCIAL AUDIT COMMITTEE | 75 |
| INFORMATION REGARDING THE INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM S FEES, SERVICES AND INDEPENDENCE | 77 |
| SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS, DIRECTORS AND EXECUTIVE OFFICERS | 78 |
| GOVERNANCE MATTERS | 80 |
| DIRECTIONS TO THE ANNUAL MEETING | 101 |

2

PROXY STATEMENT

March 10, 2010

The accompanying Proxy is solicited by the Board of Directors (the Board) of The AES Corporation. The Proxy is solicited for use at the 2010 Annual Meeting of Stockholders of the Company.

The Annual Meeting will commence at 9:30 a.m. EDT on Thursday, April 22, 2010. The Annual Meeting will be held in the 9th floor Rotunda Conference Room of the Company s corporate offices located at 4300 Wilson Boulevard, Arlington, Virginia 22203. Any adjournment of the Annual Meeting will be held at the same address. Directions to the Annual Meeting are located on page 101 of this Proxy Statement.

This Proxy Statement provides information regarding the matters to be voted on at the Annual Meeting as well as other information that may be useful to you. Our Annual Report on Form 10-K for the fiscal year ended December 31, 2009 is also enclosed with this Proxy Statement.

This Proxy Statement and accompanying Proxy Card are first being sent to Stockholders on or about March 12, 2010.

At the close of business on March 8, 2010, there were 669,646,588 shares of common stock outstanding. Each share of common stock is entitled to one vote.

Questions And Answers Regarding The Proxy Statement And Annual Meeting

WHAT IS THE RECORD DATE?

The record date has been established by the Board as permitted by Delaware law. Owners of record of our common stock at the close of business on the record date are entitled to receive notice of the Annual Meeting. Such owners of record are also entitled to vote at the Annual Meeting and any adjournments of the Annual Meeting. Each share of common stock is entitled to one vote. The record date for the Annual Meeting is March 8, 2010.

HOW DOES A STOCKHOLDER SUBMIT A VOTE ON A PROPOSAL?

A Stockholder may vote by marking, signing, dating and returning the enclosed Proxy Card in the enclosed prepaid envelope. Alternatively, a Stockholder may vote by telephone, via the Internet, or in person by attending the Annual Meeting. Only Stockholders registered on the books of our transfer agent may vote in person at the Annual Meeting. Instructions on how to vote by phone or via the Internet are set forth on the enclosed Proxy Card. If a Stockholder owns shares through a broker or other intermediary, voting instructions are set forth on the enclosed voting instruction card.

WHAT ARE THE APPROVAL REQUIREMENTS?

If a Proxy is properly executed, the shares it represents will be voted at the Annual Meeting in accordance with the instructions noted on the Proxy. If no instructions are specified in the Proxy with respect to the matters to be acted upon, the shares represented by the Proxy will be voted in accordance with the recommendations of the Board. The recommendations of the Board regarding the matters to be acted upon at the Annual Meeting are set forth in this Proxy Statement. Each share of common stock is entitled to one vote on each proposal contained herein. For any proposals, except as otherwise provided by law, rule, AES—Sixth Restated Certificate of Incorporation or our Amended and Restated Bylaws, the affirmative vote of a majority of the shares of common stock present in person or represented by Proxy at the meeting and entitled to vote on the matter is required for approval. In the case of the proposal relating to The AES Corporation 2003 Long Term Compensation Plan, the New York Stock Exchange (NYSE) rules prescribe that the minimum vote which will constitute Stockholder

approval must be approval by a majority of votes cast, provided that the total votes cast represent over fifty-percent (50%) in interest of all securities entitled to vote. In tabulating the voting results for any particular proposal, abstentions have the same effect as votes against the matter. If you hold shares beneficially in street name and do not provide your broker with voting instructions, your shares may be treated as broker non-votes. Generally, broker non-votes occur when a broker is not permitted to vote on a particular matter without instructions from the beneficial owner and instructions have not been given. Brokers that have not received voting instructions from their clients cannot vote on their clients behalf on non-routine proposals, such as the election of Directors (i) the proposal relating to The AES Corporation 2003 Long Term Compensation Plan, as amended (i) and the proposal relating to the reapproval of The AES Corporation Performance Incentive Plan, as amended, although they may vote their clients—shares on routine proposals such as the ratification of E&Y as the independent registered public accounting firm. In tabulating the voting result for any particular proposal, shares that constitute broker non-votes are not considered entitled to vote on that proposal.

WHAT CONSTITUTES A QUORUM?

Under our Bylaws, the presence of a majority of the outstanding shares of our common stock entitled to vote at the Annual Meeting will constitute a quorum. The number of outstanding shares of common stock entitled to vote at the Annual Meeting is determined as of the record date. Abstentions and broker non-votes are counted in determining whether a quorum is present for the Annual Meeting. A copy of the Bylaws is available on our website (www.aes.com).

MAY A STOCKHOLDER CHANGE A VOTE?

Stockholders are entitled to revoke their proxies at any time before their shares are voted at the Annual Meeting. To revoke a Proxy, a Stockholder must file a written notice of revocation with the Company, deliver a duly executed Proxy bearing a later date than the original submitted Proxy, or attend the Annual Meeting and vote in person. Attendance at the Annual Meeting will not, by itself, revoke your Proxy. If you hold shares in street name, you must contact your broker, bank or other nominee to change your vote or obtain a Proxy to vote your shares if you wish to cast your vote in person at the meeting.

ARE VOTING RECORDS CONFIDENTIAL?

We require vote tabulators and the Inspector of the Election to execute agreements to maintain the confidentiality of voting records. Voting records will remain confidential, except as necessary to meet legal requirements and in other limited circumstances such as proxy contests.

HOW DOES THE COMPANY SOLICIT PROXIES?

The Company will solicit proxies by mail, telephone, or other means of communication. We will bear the cost of the solicitation of proxies. The Company has retained Computershare Trust Co., N.A. and Georgeson Inc. to assist in soliciting proxies from Stockholders and we will pay a fee estimated at \$12,000, plus expenses, for such services. In addition, solicitation may be made by our Directors, Officers, and other employees. We reimburse brokerage firms, custodians, nominees, and fiduciaries in accordance with the rules of the Financial Industry Regulatory Authority for reasonable expenses incurred by them in forwarding materials to the beneficial owners of our common stock.

4

PROPOSAL 1: ELECTION OF DIRECTORS

The Board has nominated the ten current directors (Nominees) identified and discussed in the paragraphs below for election at this year s Annual Meeting to each serve a one-year term expiring at the Annual Meeting in 2011.

Samuel W. Bodman, III, age 71, has been a Director of AES since April 2009, and serves on the Compensation Committee of the Board. *Qualifications and Experience:* Dr. Bodman brings substantial government, industry, director and executive experience to AES. Dr. Bodman served as the U.S. Secretary of Energy from February 2005 to January 2009, one of the most prominent leadership positions in the energy industry. Dr. Bodman also served as Deputy Secretary for the Departments of Treasury (February 2004 to February 2005) and Commerce (June 2001 to February 2004). In these government positions, Dr. Bodman was responsible for and developed substantial expertise in ensuring energy security, maintaining the safety, security and reliability of the nuclear weapons stockpile, cleaning up the environment from the legacy of the Cold War, developing innovations in science and technology, ensuring safety and soundness in the US international financial systems, and providing leadership to 245,000 people who were employed by those three departments. Prior to government service, Dr. Bodman developed considerable private sector management and board experience during his 14 years as Chairman of Cabot Corporation, a specialty chemicals and performance materials company currently operating 39 manufacturing facilities located in the US and 19 other countries, and Chief Operating Officer of Fidelity Investments of Boston. *Education:* Dr. Bodman received a BS in chemical engineering from Cornell University and ScD from Massachusetts Institute of Technology.

<u>Directorships for the Past Five Years</u>: Since 2009, Dr. Bodman has also been a member of the Boards of Directors of Hess Corporation and DuPont Corporation.

Paul Hanrahan, age 52, has been a Director of AES since June 2002 and serves as Chairman of the Finance and Investment Committee of the Board. *Qualifications and Experience*: Since joining the Company in 1986, Mr. Hanrahan has held various positions of increasing responsibility at AES. He has served as our President and Chief Executive Officer since June 2002. As the chief executive of AES, he provides our Board with in-depth knowledge about the Company s business and the issues confronting our business. Prior to assuming his current position with the Company, Mr. Hanrahan served as the Chief Operating Officer and Executive Vice President of AES, during which time, he was responsible for managing all aspects of business development activities and the operation of multiple electric utilities and generation facilities in Europe, Asia and Latin America. In addition, Mr. Hanrahan was previously the President and Chief Executive Officer of AES China Generating Co. Ltd., a public company formerly listed on NASDAQ. Mr. Hanrahan has also managed other AES businesses in the United States, Europe and Asia. Prior to joining AES, Mr. Hanrahan served as a line officer on a fast attack nuclear submarine, USS Parche (SSN-683). *Education:* Mr. Hanrahan is a graduate of Harvard Business School and the U.S. Naval Academy.

<u>Directorships for the Past Five Years</u>: Since March 2006, Mr. Hanrahan has also been a member of the Board of Directors of Corn Products International, Inc.

Tarun Khanna, age 43, has been a Director of AES since April 2009 and serves on the Nominating, Governance and Corporate Responsibility Committee of the Board. *Qualifications and Experience:* Dr. Khanna is the Jorge Paulo Lemann Professor at the Harvard Business School, joining the faculty in 1993. He brings substantial expertise regarding global business, emerging markets and corporate strategy to the Board. Dr. Khanna s scholarly work has been published in a range of economics, management and foreign policy journals and he recently published Billions of Entrepreneurs: How China and India are Reshaping their Futures, and Yours, a book focusing on the drivers of entrepreneurship in China and India, which are important markets to AES business. A forthcoming co-authored book, Winning in Emerging Markets: A Roadmap for Strategy and Execution, will be published in March 2010. He was appointed a Young Global Leader (under 40) by the World Economic Forum in 2007, and was elected as a Fellow of the Academy of International Business in 2009. *Education:* Dr. Khanna received a BSE from Princeton University and PhD from Harvard University.

<u>Directorships for the Past Five Years</u>: Dr. Khanna is also a member of the Boards of Directors of SKS Microfinance (since February 2009), GVK Bio Sciences (since 2007), and TVS Logistics (since 2008).

John A. Koskinen, age 70, has been a Director of AES since April 2004 and serves on the Financial Audit Committee and Compensation Committee of the Board. Qualifications and Experience: Mr. Koskinen brings over thirty-five years of executive, board, government experience, and financial management expertise to the Board. He has served as the Non-Executive Chairman of Freddie Mac since September 2008 and served as the interim CEO and the person performing the function of Principal Financial Officer of Freddie Mac for six months during 2009. Mr. Koskinen has managed a wide range of companies and divisions engaged in a variety of activities, including mortgage securitization and investment, real estate development and management, hotel and resort operations, home building and insurance. He has also held several senior executive positions in government. Mr. Koskinen was President and a member of the Board of the United States Soccer Foundation from 2004 to 2008. Previously, he served as Deputy Mayor and City Administrator for the District of Columbia from 2000 to 2003. Prior to his election as Deputy Mayor, Mr. Koskinen occupied several positions within the U.S. Government, including service from 1994 through 1997 as Deputy Director for Management of the Office of Management and Budget. From 1998 to 2000, he served as Assistant to the President (President Clinton) and chaired the President s Council on Year 2000 Conversion. Prior to his service with the U.S. Government, in 1973, Mr. Koskinen joined the Palmieri Company, which specialized in turnaround management, as Vice President and later served as President and Chief Executive Officer from 1979 through 1993. Mr. Koskinen was also a member of the Board of Trustees of Duke University from 1985 to 1997, serving as Chairman of the Board from 1994 to 1997. Education: Mr. Koskinen graduated with a JD, cum laude, from Yale University School of Law and a BA, magna cum laude, in physics from Duke University where he was a member of Phi Beta Kappa.

<u>Directorships for the Past Five Years</u>: Since 2007, Mr. Koskinen has also been a member of the Board of Directors of American Capital Strategies.

Philip Lader, age 64, has been a Director of AES since April 2001 and serves as Chairman of the Nominating, Governance and Corporate Responsibility Committee and a member of the Finance and Investment Committee of the Board. Qualifications and Experience: Mr. Lader brings substantial executive, board and government experience to AES. The former U.S. Ambassador to the Court of St. James s, he has served as Chairman of WPP plc, a global advertising and communications services company, comprised of approximately 125,000 people in 107 countries, which includes J. Walter Thompson, Young & Rubicam, and Ogilvy & Mather since 2001. A lawyer, Mr. Lader is also a Senior Advisor to Morgan Stanley, and serves as a member of the Investment Committees of Morgan Stanley s Global Real Estate and Infrastructure Funds. Mr. Lader served as White House Deputy Chief of Staff, Assistant to the President, Deputy Director of the Office of Management and Budget, and Administrator of the U.S. Small Business Administration during the Clinton Administration. Mr. Lader was also President of Sea Pines Company, Executive Vice President of the U.S. holdings of the late Sir James Goldsmith, and president of several universities in South Carolina and Australia. Education: Mr. Lader graduated with a BA from Duke University where he was a member of Phi Beta Kappa, an MA from the University of Michigan, completed graduate law studies at Oxford University, and received a JD from Harvard Law School.

<u>Directorships for the Past Five Years:</u> Mr. Lader is also a member of the Boards of Directors of WPP plc (2001-current), Lloyd s of London (2005-current), RAND Corporation (2001-current), Marathon Oil Corporation (2002-current), UC RUSAL (2006-current), Smithsonian Museum of American History (since 2006), Salzburg Global Seminar (since 2008), Duck Creek Technologies Europe (since 2009), Bankinter Foundation for Innovation (since 2009), Songbird Estates, plc (2006-2009), British Museum (2001-2006), and the Atlantic Council (2008-current).

Sandra O. Moose, age 68, has been a Director of AES since April 2004, and serves on the Nominating, Governance and Corporate Responsibility Committee and the Finance and Investment Committee of the Board. *Qualifications and Experience*: Dr. Moose brings substantial executive, strategic, planning, operations, consulting, and corporate governance experience to the Board. Dr. Moose is President of Strategic Advisory Services, and from 1975 to 2003 served as a Director and Senior Vice President of The Boston Consulting Group (BCG). At BCG, Dr. Moose provided strategic planning,

6

operational effectiveness and related consulting services to global clients in a variety of industries, including consumer and industrial goods, financial services and telecommunications, for over 35 years. Dr. Moose managed BCG s New York office from 1988-1998 and was chair of the East Coast region, which accounted for approximately 20% of BCG s overall revenues, from 1994-1999. In addition to her strategic planning expertise, Dr. Moose has been the Chair or Presiding Director of several public companies and several charitable organizations, which has given her extensive expertise in corporate governance. *Education*: Dr. Moose received her PhD and MA in economics form Harvard University and BA, *summa cum laude*, in economics from Wheaton College.

<u>Directorships for the Past Five Years</u>: Dr. Moose is also a member of the Boards of Directors of Verizon, serving as Presiding Director (2000-current), Chairperson (since 2005) of the Board of Trustees of Natixis Advisor Funds (1982-current) and Loomis Sayles Funds (2003-current), and the Alfred P. Sloan Foundation (2000-current). Dr. Moose also served on the Board of Rohm and Haas Company (1981-2009) and as its Lead Director from 1998.

John B. Morse, Jr., age 63, has been a Director of AES since December 2008 and serves on the Financial Audit Committee and Finance and Investment Committee of the Board. <u>Qualifications and Experience</u>: Mr. Morse brings substantial executive experience to the Board, including board, investment and other finance expertise. Before his retirement in December 2008, Mr. Morse served as the Senior Vice President, Finance and Chief Financial Officer of The Washington Post Company (the Post), a diversified education and media company whose principal operations include educational services, newspaper and magazine print and online publishing, television broadcasting and cable television systems recording over \$4.4 billion in annual operating revenues. During Mr. Morse s 17 year tenure, the Post s leadership made more than 100 investments in both domestic and international companies and included new endeavors in emerging markets. Prior to joining the Post, Mr. Morse was a partner at Price Waterhouse (now PricewaterhouseCoopers), where he worked with publishing/media companies and multilateral lending institutions for more than 17 years. <u>Education</u>: Mr. Morse graduated with a BA from the University of Virginia and an MBA from the Wharton School of Finance at the University of Pennsylvania. Mr. Morse is a Certified Public Accountant.

<u>Directorships for the Past Five Years</u>: Mr. Morse is also a member of the Boards of Directors of Host Hotels & Resorts Corporation (2005-present), the Home Shopping Network (2008-present), Trustee and President of the College Foundation of the University of Virginia (2006-present), and a six-year term as a member of the Financial Accounting Standards Advisory Council (2004-2010).

Philip A. Odeen, age 74, has been a Director of AES since May 1, 2003 and has served as Chairman of the Board and Lead Independent Director since January 2008. Mr. Odeen also serves as Chairman of the Compensation Committee and a member of the Finance and Investment Committee of the Board. Qualifications and Experience: Mr. Odeen has provided leadership, strategic planning, executive compensation, and operations guidance to our Board as a result of his varied global business, governmental and non-profit and charitable organizational experience of over 40 years. As of December 31, 2007, Mr. Odeen assumed the Non-Executive Chairmanship for Convergys Corporation. From October 2006 to October 2007, Mr. Odeen served as Non-Executive Chairman for Avaya and served as Non-Executive Chairman for Reynolds and Reynolds Company from July 2004 until October 2006. Mr. Odeen retired as Chairman/CEO of TRW Inc. in December 2002. Prior to joining TRW in 1997, Mr. Odeen was President and Chief Executive Officer of BDM, which TRW acquired in 1997. From 1978 to 1992, Mr. Odeen was a Senior Consulting Partner with Coopers & Lybrand and served as Vice Chairman, management consulting services, from 1991 to 1992. From 1972 to 1978, he was Vice President of the Wilson Sporting Goods Company. Mr. Odeen has served in senior positions with the Office of the Secretary of Defense and the National Security Council staff, and has served on the boards of community organizations, including the Northern Virginia Technology Council, Wolf Trap Foundation, Inova Health Care, CharityWorks, and Childhelp USA. Education: Mr. Odeen graduated with a BA from the University of South Dakota where he was a member of Phi Beta Kappa, was a Fulbright Scholar to the United Kingdom, and earned an MA from the University of Wisconsin.

7

<u>Directorships for the Past Five Years</u>: Mr. Odeen is also a member of the Boards of Directors of Convergys Corporation (2007-present), Qinetiq NA (2009-present), Booz, Allen, Hamilton (2008-present), Xstream Systems (2009-current), Northrop Grumman Corporation (2005-2007), Avaya (2005-2006), and Reynolds and Reynolds Company (2005-2006).

Charles O. Rossotti, age 69, has been a Director of AES since March 2003 and serves as Chairman of the Financial Audit Committee of the Board. Qualifications and Experience: Mr. Rossotti brings substantial executive, entrepreneurial, global business, operations, and finance experience to our Board as a result of his previous positions. He has served as a Senior Advisor with the Carlyle Group, one of the world's largest private equity firms. From November 1997 until November 2002, Mr. Rossotti was the Commissioner of Internal Revenue at the United States Internal Revenue Service (IRS), where he was responsible for regulatory and financial and accounting functions for \$2 trillion a year in tax revenues. Prior to joining the IRS, Mr. Rossotti was a founder of American Management Systems, Inc. (AMS), a technology and management consulting firm which grew from inception to 9,000 employees and \$800 million in revenue, where he oversaw operations in the U.S., Europe, and Asia. Mr. Rossotti held the position of President of AMS from 1970-1989, Chief Executive Officer from 1981 to 1993 and Chairman from 1989 to 1997, where he oversaw expansion into developed international markets, risk management of contracting functions, and strategic actions. From 1965 to 1969, he held various positions in the Office of Systems Analysis within the Office of the Secretary of Defense. He is currently a member of the Board of Directors of Capital Partners for Education, a non-profit organization and a member of the Controller General s Advisory Board of the U.S. Government Accountability Office. Education: Mr. Rossotti graduated magna cum laude from Georgetown University and received an MBA with high distinction from Harvard Business School.

<u>Directorships for the Past Five Years</u>: Mr. Rossotti is also a member of the Boards of Directors of Bank of America (2008-present), Booz, Allen, Hamilton (2008-present), Apollo Global (2008-present), Compusearch Systems, Inc. (2005-present), Merrill Lynch Corporation (2004-2007), Adesso Systems Corporation (2005-2006), and Liquid Engines, Inc. (2004-2006).

Sven Sandstrom, age 68, has been a Director of AES since October 2002 and serves on the Financial Audit Committee and the Nominating, Governance and Corporate Responsibility Committee of the Board. *Qualifications and Experience:* Mr. Sandstrom brings substantial experience in global finance, strategy, operations, industry knowledge, as well as risk management to our Board as a result of his following positions. He is the former Managing Director of the World Bank where he served for 30 years, retiring in 2001. As Managing Director for ten years, Mr. Sandstrom was responsible for all aspects of the Bank s work including financial policy and risk management, global strategy, and operations. Since 2001, Mr. Sandstrom has been a Director and adviser at private corporations and public institutions in Europe, Africa, Asia and USA, including the European Commission, the African Development Bank and the International Union for the Conservation of Nature (IUCN). He currently chairs funding negotiations for the Global Fund to Fight AIDS, TB and Malaria and serves as an adviser to Hand in Hand, a public charitable trust founded in India. He is also the sole owner and operator of a small hydropower plant in Sweden. *Education:* Mr. Sandstrom graduated with a BA from the University of Stockholm, an MBA from the Stockholm School of Economics, and a DrSc from the Royal Institute of Technology in Stockholm.

<u>Directorships for the Past Five Years</u>: Mr. Sandstrom is also a member of the Board of Directors of Hand in Hand International, UK (2009-present) and IUCN, Switzerland (2004-2008).

THE BOARD RECOMMENDS A VOTE FOR THE

ELECTION OF THE TEN DIRECTORS DISCUSSED ABOVE AND LISTED ON

THE PROXY CARD

8

INFORMATION CONCERNING OUR BOARD OF DIRECTORS

Director Independence

We are required to have a majority of independent Directors serving on our Board and may only have independent Directors serving on each of our Financial Audit, Compensation and Nominating, Governance and Corporate Responsibility Committees pursuant to the rules of the NYSE and, with respect to our Financial Audit Committee, the rules and regulations existing under the Securities Exchange Act of 1934, as amended (the Exchange Act).

Our Board undertook an annual review of Director and Director Nominee independence in February 2010. The purpose of this review was to determine whether any relationships or transactions involving Directors and Director nominees, their family members and affiliates were inconsistent with a determination that the Director or Director nominee is independent under the independence standards set forth in the NYSE rules and our Corporate Governance Guidelines and, with respect to Financial Audit Committee members and Financial Audit Committee nominees, under the independence standards for audit committee members adopted by the Securities and Exchange Commission (SEC).

In making this determination, the Board considers not only the criteria for independence set forth in the listing standards of the NYSE but also any other relevant facts and circumstances that may have come to the Board's attention, after inquiry, relating to transactions, relationships or arrangements between a Director or a Director nominee or any member of their immediate family (or any entity of which a Director or Director nominee or an immediate family member is an Executive Officer, general partner or significant equity holder) and AES or any of its subsidiaries or affiliates that might signal potential conflicts of interest, or that might bear on the materiality of a Director s or a Director nominee s relationship to AES or any of its subsidiaries. The Board considers the independence issue not merely from the standpoint of the Director or Director Nominee, but also from that of the persons or organizations with which the Director or Director Nominee is affiliated.

Based on its review, our Board determined that Messrs. Bodman, Khanna, Koskinen, Lader, Morse, Odeen, Rossotti and Sandstrom and Dr. Moose each qualify as independent under the independence standards existing under NYSE rules and that Kristina M. Johnson, who advised the Company on April 19, 2009 that she would not stand for re-election to the AES Board of Directors, was also independent. Our Board also determined that Messrs. Koskinen, Morse, Rossotti and Sandstrom also qualify as independent under the independence standards for audit committee members adopted by the SEC.

Board Leadership Structure

Our Corporate Governance Guidelines require the separation of the offices of the Chairman of the Board (Chairman) and Chief Executive Officer (CEO). If the Chairman is independent, he or she will also serve as Lead Independent Director. Since 1993, we have separated the offices of Chairman and CEO. Since 2003, our Chairman has been an independent Director who has also acted as Lead Independent Director.

We believe the structure described above provides strong leadership for our Board, while also positioning our CEO as the leader of the Company for our investors, counterparties, employees and other stakeholders. Our current structure, which includes an independent Chairman serving as Lead Independent Director, helps ensure independent oversight over the Company. Our Corporate Governance Guidelines state that the Lead Independent Director s duties include coordinating the activities of the Independent Directors, coordinating the agenda for and moderating sessions of the Board s Independent Directors, and facilitating communications among the other members of the Board. At the same time, our current structure allows the CEO to focus his energies on management of the Company.

Our Board has nine independent members and only one non-independent member, the CEO. A number of our independent Board members are currently serving or have served as Directors or as members of senior management of other public companies. We have three Board Committees comprised solely of independent Directors, each with a different independent Director serving as Chairman of the Committee. We believe that the number of independent experienced Directors that make up our Board, along with the independent oversight of the Board by the non-executive Chairman, benefits our Company and our Stockholders.

Pursuant to our bylaws and our governance guidelines, our Board determines the best leadership structure for the Company. As part of our annual Board self-evaluation process, the Board evaluates issues such as independence of the Board, communication between Directors and Management, the relationship between the CEO and Chairman, and other matters that may be relevant to our leadership structure. The Company recognizes that in the event that circumstances facing the Company change, a different leadership structure may be in the best interests of the Company and its Stockholders.

10

THE COMMITTEES OF THE BOARD

In 2009, the Board maintained four standing Committees: the Compensation Committee, Finance and Investment Committee, Financial Audit Committee, and the Nominating, Governance and Corporate Responsibility Committee. The Board has determined that each of the members of the Compensation Committee, Financial Audit Committee, and Nominating, Governance and Corporate Responsibility Committee meets the standards of independence established by the NYSE. A description of each Board Committee is set forth below.

STANDING COMMITTEES:

Compensation Committee

The members of the Compensation Committee are Samuel W. Bodman, III, John A. Koskinen, and Philip A. Odeen (Chairman). For information regarding the role of our Compensation Committee, including its processes and procedures for determining Executive compensation, see Information About our Compensation Committee beginning on page 53 of this Proxy Statement. The Compensation Committee operates under the Charter of the Compensation Committee, which has been adopted and approved by the Board. The Compensation Committee may form subcommittees and delegate to those subcommittees such power and authority as the Compensation Committee deems appropriate and in compliance with law. A copy of the Compensation Committee s Charter can be obtained from the Company s web site (www.aes.com) or by sending a request to the Office of the Corporate Secretary, The AES Corporation, 4300 Wilson Boulevard, Arlington, VA 22203.

Finance and Investment Committee

The members of the Finance and Investment Committee are Paul Hanrahan (Chairman), Philip Lader, Sandra O. Moose, John B. Morse, Jr., and Philip A. Odeen. The Finance and Investment Committee focuses on the evaluation of strategic plans, potential investments, budgets, proposed equity and/or debt offerings, and is also available to provide advice and assistance to Company Management on a more frequent basis than the regularly scheduled meetings of the Board. The Finance and Investment Committee operates under the Charter of the Finance and Investment Committee adopted and approved by the Board. A copy of the Charter can be obtained from the Company s website (www.aes.com) or by sending a request to the office of the Corporate Secretary, The AES Corporation, 4300 Wilson Boulevard, Arlington, Virginia 22203.

Financial Audit Committee (the Audit Committee)

The members of the Audit Committee are John A. Koskinen, John B. Morse, Jr., Charles O. Rossotti (Chairman), and Sven Sandstrom. The Audit Committee is responsible for the review and oversight of the Company s performance with respect to its financial responsibilities and the integrity of the Company s accounting and reporting practices. The Audit Committee may delegate its authority to subcommittees when it deems such delegation to be appropriate and in the best interests of the Company. The Audit Committee, on behalf of the Board, also appoints the Company s independent auditors, subject to Stockholder ratification, at the Annual Meeting. The Audit Committee operates under the Charter of the Audit Committee adopted and approved by the Board. A copy of the Charter can be obtained from the Company s website (www.aes.com) or by sending a request to the office of the Corporate Secretary, The AES Corporation, 4300 Wilson Boulevard, Arlington, Virginia 22203. Our Board has determined that all members of the Audit Committee are independent within the meaning of the SEC rules and under the current listing standards of the NYSE. The Board has also determined that each member of the Audit Committee is financially literate as required by the NYSE rules and an Audit Committee Financial Expert within the meaning of the SEC rules based on, among other things, the experience of such member, as described under Proposal 1: Election of Directors set forth on page 5 of this Proxy Statement.

Nominating, Governance and Corporate Responsibility Committee (the Nominating Committee)

The members of the Nominating Committee are Tarun Khanna, Philip Lader (Chairman), Sandra O. Moose and Sven Sandstrom. The Nominating Committee provides recommendations for potential Director nominees for election to the Board,

11

Table of Contents

establishes compensation for Directors, considers governance and social responsibility issues relating to the Board and the Company and considers the scope of the Company s internal environmental and safety audit programs. The Nominating Committee may form subcommittees and delegate to those subcommittees such power and authority as the Committee deems appropriate and in compliance with law. The Nominating Committee operates under the Charter of the Nominating Committee adopted and approved by the Board. A copy of the Charter can be obtained from the Company s website (www.aes.com) or by sending a request to the Office of the Corporate Secretary, The AES Corporation, 4300 Wilson Boulevard, Arlington, Virginia 22203.

Director Qualifications. Director nominees are selected on the basis of, among other things, experience, knowledge, skills, expertise, integrity, ability to make independent analytical inquiries, understanding the Company s global business environment and willingness to devote adequate time and effort to Board responsibilities so as to enhance the Board s ability to oversee and direct the affairs and business of the Company.

Diversity. The Company does not maintain a separate policy regarding the diversity of the Board. However, the charter of the Nominating Committee requires that the Committee review the composition of the Board to ensure it has appropriate balance of attributes such as knowledge, experience, diversity and other attributes. In addition, the Company s Corporate Governance Guidelines establish that the size of the Board shall be nine to twelve members, a range which permits diversity of experience without hindering effective discussion or diminishing individual accountability.

Consistent with these governing documents, both the Nominating Committee and the full Board seek Director nominees with distinct professional backgrounds, experience and perspectives so that the Board as a whole has the range of skills and viewpoints necessary to fulfill its responsibilities. As part of our annual Board self-evaluation process, the Board evaluates whether or not the Board as a whole has the skills and backgrounds for the current issues facing the Company. The Board also evaluates its effectiveness with regard to specific areas of expertise.

Director Nomination Process. Pursuant to our Corporate Governance Guidelines, our Nominating Committee reviews the qualifications of proposed Director Nominees to serve on our Board and recommends Director Nominees to our Board for election at the Company s Annual Meeting. The Board proposes a slate of Director Nominees to the Stockholders for election to the Board, using information provided to the Committee.

In certain instances, a third party may assist in identifying potential Director Nominees. The Nominating Committee also considers potential nominations for Director provided by Stockholders and submits any such suggested nominations, when appropriate, to the Board for approval. Stockholder nominees for Director are evaluated using the criteria described above. Stockholders wishing to recommend persons for consideration by the Committee as nominees for election to the Board can do so by writing to the Office of the Corporate Secretary of the Company at 4300 Wilson Boulevard, Arlington, Virginia 22203 and providing the information and following the additional procedures set forth in the Company s Amended and Restated Bylaws, which are more fully described in Stockholder Proposals and Nominations for Director set forth on page 80 of this Proxy Statement.

Director Compensation. The Nominating Committee periodically reviews the level and form of compensation paid to Directors, including the compensation program s underlying principles. Under the Corporate Governance Guidelines, a Director who is also an Officer of AES is not permitted to receive additional compensation for service as a Director. In reviewing and determining the compensation paid to Directors, the Committee considers how such compensation relates and compares to that of companies of comparable size, which operate in a comparable industry and/or have equivalent complexity. The Committee s review includes looking at both direct and indirect forms of compensation paid to our Directors, including any charitable contributions made by the Company, on behalf of such Directors, to organizations with which Directors are affiliated. The General Counsel assists the Nominating Committee with its review of our Director compensation program. The General Counsel s office conducts research on other companies Director compensation practices by reviewing broad-based Director compensation studies, including a hundred or more companies, and provides the Committee with a

12

benchmarking analysis of such companies practices against the Company s program. The reports are further described in Director Compensation below. Neither the General Counsel nor the Nominating Committee retain an independent compensation consultant to assist with recommending or determining Director compensation. Any proposed changes to the Director compensation program are recommended by the Nominating Committee to the Board for consideration and approval. For further information regarding our Director compensation program, see Compensation of Directors on page 55 of this Proxy Statement.

BOARD S ROLE IN RISK MANAGEMENT

Our Management is responsible for the management and assessment of risk at the Company, including communication of the most material risks to the Board and its Committees, who provide oversight over the risk management practices implemented by Management. Our full Board provides oversight for risk management, except for the oversight of risks that have been specifically delegated to a Committee of the Board. Even when the oversight of a specific area of risk has been delegated to a Committee, the full Board may maintain oversight over such risks through the receipt of reports from the Committee Chairpersons to the full Board at each regularly-scheduled full Board meeting. In addition, if a particular risk is material or where otherwise appropriate, the full Board may assume oversight over a particular risk, even if the risk was initially overseen by a Board Committee. The Board and Committee reviews occur principally through the receipt of regular reports from Management to the Board on these areas of risk, and discussions with Management regarding risk assessment and risk management.

Full Board. At its regularly scheduled meetings, the Board generally receives a number of reports which include information relating to risks faced by the Company. The Company s Chief Financial Officer and/or Treasurer provides a report on the Company s liquidity position, including an analysis of prospective sources and uses of funds, and the implications to the Company s debt covenants and credit rating, if any. The Chief Operating Officer or his designee provides an operational report, which includes risks related to tariffs, efficiency at our subsidiaries plants, construction, and related matters. The Company s Vice President of Global Risk and Commodities provides a report to the Board which explains the Company s primary risk exposures, including currency, commodity and interest rate risk. Finally, the Company s General Counsel provides a privileged dispute resolution report which provides information regarding the status of the Company s litigation and related matters. At each regularly-scheduled Board meeting, the full Board also receives reports from Committee Chairpersons, which may include a discussion of risks initially overseen by the Committees for discussion and input from the full Board. As noted above, in addition to these regular reports, the Board receives reports on specific areas of risk from time to time, such as regulatory, geopolitical, cyclical or other risks that are not covered in the regular reports given to the Board and described above.

Committees. The Audit Committee maintains initial oversight over risks related to the integrity of the Company s financial statements; internal controls over financial reporting and disclosure controls and procedures (including the performance of the Company s internal audit function); the performance of the independent auditor; and the effectiveness of the Company s Ethics and Compliance Program. The Company s Nominating Committee maintains initial oversight for risks related to workplace safety, and our subsidiaries continuing efforts to ensure compliance with the best practices in this area. When appropriate, the Committee also receives environmental reports regarding our subsidiaries compliance with environmental laws and their efforts to ensure continuing compliance with governing laws and regulations. The Company s Compensation Committee maintains initial oversight for risks related to the Company s compensation practices, including practices related to hiring and retention, succession planning (approved by the full Board), and training of employees. The Finance and Investment Committee maintains initial oversight for risks related to business development, including business combinations, Greenfield development and re-financings. Generally, any such transactions are also reviewed and, in many cases, approved by the full Board.

13

DIRECTOR ATTENDANCE

In 2009, our Board convened twelve times, including five telephonic meetings, and our Board Committees held the following number of meetings: (i) Audit Committee nine meetings; (ii) Compensation Committee eight meetings; (iii) Finance and Investment Committee three meetings; and (iv) Nominating Committee five meetings.

Under our Corporate Governance Guidelines, Directors are expected to attend Board meetings and meetings of Committees on which they serve in person or by conference telephone, and Directors are also encouraged to attend the Annual Meeting. Messrs. Bodman, Khanna, Hanrahan, Lader, Morse, Odeen, Rossotti, and Sandstrom and Dr. Moose attended the 2009 Annual Meeting of Stockholders on April 23, 2009. All of our current Directors attended at least 85% of the aggregate of all meetings of the Board and the Committees on which they serve, during the period in which each Director served.

In accordance with the Company s Corporate Governance Guidelines, non-management Directors met in executive session after each in-person meeting of the Board. Non-management Directors met seven times in 2009, with Mr. Odeen presiding as Lead Independent Director.

14

EXECUTIVE COMPENSATION

COMPENSATION DISCUSSION AND ANALYSIS

2009 Performance At-A-Glance

In 2009, AES delivered exceptionally strong performance in a year that was generally characterized by the global economic crisis and uncertainty in the financial markets. The Company achieved the following: (1) generated an all-time record \$1.25 billion in distributions from our subsidiaries, a significant achievement in the context of the macroeconomic environment; (2) achieved its key operational metrics and achieved significant cost savings across the organization; (3) prioritized investments relating to future growth opportunities; (4) improved the debt profile of the Company; and (5) closed \$2.5 billion in new financings. Our compensation awards in 2009 primarily recognize our people for their roles in delivering on commitments that created value for our Stockholders, in strengthening our position in the global power industry, and in creating and maintaining focused growth options that will allow the Company to continue to make value accretive investments in the coming years.

Compensation Discussion and Analysis Overview

| Our Compensation Discussion and Analysis (CD&A) is divided into five sections: | | |
|--|---|--|
| | Our Executive Compensation Philosophy and Process | |
| | Components of AES Total Compensation Program | |
| | 2009 Compensation: Our Approach and Decisions | |
| | Other Relevant Compensation Elements | |
| | | |

Report of the Compensation Committee, Proxy Tables, and Narrative Disclosures to Relevant Tables
This CD&A includes compensation details for our Chief Executive Officer, Mr. Paul Hanrahan, and our Chief Financial Officer, Ms. Victoria
Harker and our next three most highly compensated Named Executive Officers, Mr. Andres Gluski, Mr. Brian Miller and Mr. Edward Hall.

Our Executive Compensation Philosophy and Process

| Included | |
|----------|---|
| | Our Philosophy |
| | Risk Assessment |
| | Composition of our Compensation Opportunities |

Our Process for Determining Executive Compensation including the respective roles of

Our Compensation Committee

The Compensation Committee s Independent Consultant

Our Management

Management s Consultant

How we Use Survey Data (Survey Data) in Our Compensation Process

15

Our Philosophy

Our Executive Compensation Program (Program) is designed to achieve the following objectives:

Align the interests of our Stockholders and Management by ensuring that a significant amount of our executives total compensation is at-risk and performance-based;

Reward the achievement of both short-, medium- and long-term financial performance;

Reward significant performance that supports our business goals and targets by appropriately awarding performance that exceeds targets; and

Provide competitive total compensation that will enable us to attract, motivate and retain an experienced and qualified Management team that is critical to our success.

Our Program is designed to allocate a significant portion of each Named Executive Officer and senior leader s total compensation to the achievement of both short- and long-term Company goals. More than 75% of the targeted total compensation for our Named Executive Officers is made up of at-risk incentive pay opportunities, the payouts of which are dependent on the achievement of financial, operational and strategic goals, and the performance of our share price. We believe the mix of compensation elements that we have in place for our Named Executive Officers and senior leaders provide the appropriate balance of incentives to encourage (1) the achievement of near-term performance objectives and (2) continued focus on medium- and longer-term goals that drive Stockholder value.

Risk Assessment

We believe that the general design of AES compensation program promotes stability and growth (1) in the short-term through the payment of an annual incentive award with pre-set targets; (2) in the medium-term through awards which are measured in three-year periods and based on cash generation; and (3) in the long-term, through the payment of equity awards. As a result, we believe that our compensation elements and the multi-year vesting structure of our equity awards properly account for the time horizon of unnecessary risk and discourages risk-taking that could reduce Stockholder value.

Composition of Our Compensation Opportunities

To ensure our Program rewards strong performance, a significant portion of our total compensation opportunities are at-risk and performance contingent. Our Chief Executive Officer's compensation is higher than the compensation paid to our other Named Executive Officers largely due to the scope of the role and his overall responsibility for the Company's strategy, direction, and influence on AES near- and long-term performance. Also, for these reasons, the Chief Executive Officer's total direct compensation is more heavily weighted towards incentive compensation elements as compared to the other Named Executive Officers. The differences in relative pay between the Chief Executive Officer and the other Named Executive Officers reflect the varying levels of the individual s responsibilities and are based to some extent on Survey Data for their specific positions.

16

The graphs below show the mix of the compensation elements paid to our Chief Executive Officer and other Named Executive Officers.

Our Process for Determining Executive Compensation

The Role of Our Compensation Committee

The Compensation Committee (Committee) has primary responsibility for oversight of the Company s compensation and employee benefit plans and practices, including its executive compensation Program which covers our Named Executive Officers. On an annual basis, the Committee also reviews the Company s succession plan for the Named Executive Officers and other key positions.

As in prior years, in the first quarter of 2009, the Committee reviewed and benchmarked AES Program against relevant Survey Data which includes general industry and energy services companies. Such data was used to help determine payout opportunities for the coming year. In addition, as a reference, proxy disclosed data for the same or similar positions within Peer Energy Companies (Peer Groups) is also provided to the Committee.

Executive performance and Company performance affects both pay opportunities and short-term incentive payouts. To assess Company performance, the Committee receives a detailed summary of the Company s overall performance against its pre-set targets for the year. To assess the performance of our Named Executive Officer, the Chief Executive Officer also provides a self-assessment against his stated goals and objectives for the year as well as his assessment on the performance of the Named Executive Officers against their stated goals for the year.

Management s role in the compensation process is detailed in the section covering the role of our Management.

The Committee considers the information it receives and exercises its own independent judgment in making compensation recommendations to our Board. Each Named Executive Officer s final compensation determination is based on a review of: (1) Survey Data; (2) the individual s performance against their objectives for the year; (3) the individual s experience; (4) the individual s position and scope of responsibilities; and (5) the individual s future prospects with the Company.

The Role of the Committee s Independent Consultant

Since 2008, the Committee has retained the services of its own independent consultant. In 2009, it retained Hewitt Associates (Hewitt). The Committee believes that having its own consultant provides them with the opportunity to leverage the consultant s impartial knowledge and experience Hewitt reported directly and exclusively to the Committee, and provided objective input and analysis to the Committee throughout the year with reference to market data trends, regulatory initiatives,

17

Table of Contents

governance best practices and emerging governance norms. Hewitt s services did not include determining actual compensation amounts for executives. During 2009, Hewitt s consultants participated in eight Committee meetings either in person or by telephone.

During 2009, Hewitt provided no consulting or other services to AES. In early 2010, Hewitt spun off a part of its executive compensation practice into a separate, entirely independent entity named Meridian Compensation Partners, LLC. Due to the importance of its independent opinion, and to maintain consistent process and representation, the Committee has retained Meridian going forward as its independent executive compensation consultant.

The Role of Our Management

Our Chief Executive Officer participates in all Committee meetings, excluding any of the executive sessions. His role in the process for determining executive compensation is to provide the Committee with an assessment of each Named Executive Officer s performance against his/her pre-set targets, and his initial assessment and compensation recommendations for the individual s incentive compensation and base salary.

Our Vice President of Human Resources develops written background and supporting materials for review by the Committee prior to the meetings and presents information relating to specific elements of our Program. If warranted, she also proposes changes to our annual and long-term incentive programs. In addition, she attends all Committee meetings, but is not present at the executive sessions.

The Human Resources team also directly interfaces with Hewitt to prepare the necessary background information for the Committee.

The Role of Management s Consultant

AES Management retained the services of Towers Perrin (now Towers Watson) during 2009 to provide benchmark data and tally sheets for the Named Executive Officers. All materials provided by Towers Watson were shared with Hewitt prior to being presented to the Committee. Hewitt provided review and comment to the Committee as appropriate.

How we use Survey Data in our Compensation Process

During 2009, Towers Watson supplied benchmarking data for each Named Executive Officer against a group of similarly-sized general industry and energy companies from the Towers Watson US General Industry Executive Compensation Database and Towers Watson US Energy Services Executive Compensation Databases (Survey Data). Hewitt reviewed the benchmarking data and concluded that the data sources selected by AES were appropriate for these purposes.

The 2009 Survey Data utilized either a blend of general industry and energy services data or general industry data. The data used varies based on the Named Executive Officer s role and the types of companies in which we may compete for talent. For the Chief Executive Officer, Chief Operating Officer and Executive Vice President, Regional President positions, the Survey Data represents a blend of general industry and energy services data as it is more representative of the specific experience required and operational nature of the individual s role. For the Chief Financial Officer and General Counsel positions, the Survey Data represents the general industry data as it is more reflective of the experience required and the functional nature of the individual s position.

18

The Survey Data is generally regressed based on our revenue sizes at the corporate or business unit level, as described below.

Our Chief Executive Officer and Chief Operating Officer positions were matched to a blend of general industry and energy services comparable market data. The market data was regressed to AES 12 month moving revenues of \$16 billion and the data was representative of the 95 general industry companies with revenues over \$6 billion in Towers Watson s database.

The Chief Financial Officer and General Counsel positions were matched to comparable general industry market data. The market data was regressed to AES 12 month moving revenues of \$16 billion and was representative of 95 companies.

For the Executive Vice President, Regional President position, the comparable market data included a blend of general industry and energy services companies. The general industry data represented tabular data for 170 companies with median business unit revenues of \$3.2 billion. The energy market data represented tabular data for 10 companies with median business unit revenues of \$2.8 billion. To understand the full range of pay within our relative market, Management includes Survey Data that provides a market comparison at a range of the 25th, 50 th and 75th percentiles for each position. The Committee determines total compensation for our Named Executive Officers after taking into account a range of factors, including role complexity, level of experience and expertise, individual performance and long-term potential. Our Named Executive Officers total compensation including their target incentive opportunities fall within the range of the survey data

As a secondary data source, the Committee is provided proxy data on 13 select energy Peer Group companies chosen for their similar sizes to AES. The Peer Group data is provided primarily as a compensation reference for individuals specifically in the energy industry. The Peer Group is reviewed on an annual basis and includes the companies listed below.

AES Energy Peer Group

Calpine CorporationEdison InternationalPG&E CorpWilliams CompaniesCMS EnergyEntergy CorpRRI Energy IncXcel Energy IncDuke Energy CorpFPL IncSouthern Company

Dynegy Inc NRG Inc

While these companies have similarities to AES from an industry perspective, the Committee believes that the global nature of AES operations set it apart from these energy Peers, whose operations are primarily domestic. Therefore the Survey Data, since it is comprised of data from general industry and energy services companies, provides the Committee with a more complete view of similarly-sized companies with international operations against whom we compete for talent.

Components of AES Total Compensation Program

Included

Overview of Our Compensation Elements

A Detailed Explanation About Our Long Term Compensation (LTC) Plan

Table of Contents 24

5

Table of Contents

ThermoGenesis is also developing a series of "off the shelf" single use kits that are comprised of different combinations of X-SeriesTM products depending on different customer use cases. These X-MiniTM, X-MaxiTM, and X-AutoTM kits are currently intended for research use and non-commercial manufacturing of cell-based products for clinical research. The Company is also developing the X-CliniTM kit intended for cGMP commercial manufacturing of CAR-T for drug developers. The Company expects to introduce these kits to the market during the second quarter of 2018, with initial shipments planned for key opinion leaders in the CAR-T research space. ThermoGenesis is also in active discussions with potential global distribution partners for the X-SeriesTM kits.

In addition to selling the X-SeriesTM products, we have future plans to enter the CDMO space utilizing our proprietary and patented technology. The U.S. and China are currently the two largest markets for active clinical trials for CAR-T and therefore we will target these two regions for our manufacturing operations. In March 2018, ThermoGenesis entered into an exclusive license agreement with IncoCell, a fully owned subsidiary of the Boyalife Group, to implement a CDMO strategy in China and other regions in Asia. Cesca's CDMO business model is to introduce our CAR-TXpressTM automated manufacturing solutions on both a fee-for-service or co-development basis.

Stem Cell and Regenerative Medicine

Cesca is also leveraging its proprietary AutoXpress® technology platform for stem cell banking and for the development of autologous (utilizing the patient's own cells) stem cell-based therapies that address significant unmet needs in the vascular, cardiology and orthopedic markets.

AXP[®] **for Stem Cell Banking** – a proprietary, automated system for the isolation, collection and storage of hematopoietic stem cell concentrates derived from cord blood and peripheral blood.

VXP[®] **for Critical Limb Ischemia (CLI)** – Cesca has a proprietary point-of-care, autologous (donor and recipient are the same individual) stem cell-based therapy under development which is intended for the treatment of patients with CLI. The FDA has cleared the Company to proceed with a 362 subject, multi-center pivotal phase III CLIRST study, which is designed to evaluate the safety and efficacy of Cesca's autologous stem cell-based therapy in patients with no-option or poor option late stage CLI. Previous clinical studies using Cesca's proprietary, point-of-care-technologies have demonstrated the regeneration of blood vessels and improved blood circulation in the limbs, using a patient's own bone marrow derived stem cells.

VXP[®] **for Acute Myocardial Infarction** – Cesca has a proprietary, point-of-care autologous stem cell-based therapy under development which is intended as an adjunct treatment for patients who have suffered an acute ST-elevated myocardial infarction (STEMI), the most serious type of heart attack. Such treatments are aimed at minimizing the adverse remodeling of the heart post-STEMI.

PXP[™] for Orthopedics – Osteoarthritis (OA) - Cesca is in early stage development of an autologous stem cell based therapy intended to treat patients with cartilage tissue degeneration that may lead to progressive cartilage loss and painful joint diseases. Localized articular cartilage defects can potentially be repaired by transplantation of autologous cell therapy. Therapies in development using Cesca's proprietary PXP[™] system are expected to delay further deterioration and repair the damaged joint cartilage. Treatment is typically via a single procedure in the hospital or clinic.

6

Cell Manufacturing and Banking Services (India)

Through our TotipotentRX subsidiary in Gurgaon, India, we operate an advanced clinical cell manufacturing, processing, testing, and storage facility, compliant with cGMP, Good Tissue Practices (GTP), and Good Laboratory Practices (GLP). We can support the production of a small, personalized medicine cell prescription. Patient samples and therapeutic aliquots are all labeled in accordance with ISBT 128 and stored in our own cryogenics facility. In addition, our clinical research organization (CRO), also located in Gurgaon, is, to our knowledge, the only specialized, in-hospital, cell therapy CRO in the world. We have expertise in the design and management of cell based clinical trials, including the ability to support the device prototyping and validation typically required for a combination product. These services ensure patient safety under Good Clinical Practices (GCP), quality laboratory documentation under GLP, and quality cell processing and handling under both cGMP and GTP. In partnership with Fortis Healthcare and through our advanced clinical infrastructure we also operate commercial service programs supporting bone marrow transplantation (hematopoietic stem cell transplantation) for hematological and oncological disorders as well as a licensed umbilical cord blood and tissue bank (NovaCord).

Our Clinical Programs

Our therapeutic development initiatives, focused in the fields of cardiovascular diseases and orthopedic cartilage regeneration, are based on our proprietary MXP® platform for the point-of-care harvesting, processing, and delivery of cells from the patient's own peripheral blood or bone marrow. A key advantage of our point-of-care system is that it is capable of delivering high cell viability and potency through a short intra-operative procedure, including bone marrow collection, target cell selection, characterization of the final cell concentrate, and re-injection into the patient. Based on our point-of-care platform, our CLI clinical program has received FDA clearance to initiate a phase III clinical trial to demonstrate efficacy in "no-option" or "poor-option" CLI patients. In additional to vascular diseases, we are also conducting early phase studies in orthopedic and wound healing areas. We are actively looking for strategic partners to co-develop our clinical programs.

Corporate Information

We are a Delaware corporation with principal executive offices located at 2711 Citrus Road, Rancho Cordova, CA 95742. Our telephone number is (916) 858-5100 and our web site is www.cescatherapeutics.com. The information contained in, and that which can be accessed through, our website is not incorporated into and does not form a part of this prospectus.

7

THE OFFERING

Units offered by us in this offering

Up to 4,672,897 units, each consisting of one share of our common stock and one common warrant to purchase one share of our common stock.

Pre-funded units offered by us in this offering

We are also offering the opportunity to purchase, if the purchaser so chooses, up to 4,672,897 pre-funded units to purchasers whose purchase of units in this offering would otherwise result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock immediately following the consummation of this offering (each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock and one common warrant to purchase one share of our common stock) in lieu of units that would otherwise result in the purchaser's beneficial ownership exceeding 4.99% of our outstanding common stock (or, at the election of the purchaser, 9.99%). The purchase price of each pre-funded unit is equal to the price at which the units are being sold to the public in this offering, minus \$0.01, and the exercise price of each pre-funded warrant included in each pre-funded unit is \$0.01 per share. For each pre-funded unit we sell, the number of units we are offering will be decreased on a one-for-one basis. Because we will issue a common warrant as part of each unit or pre-funded unit, the number of common warrants sold in this offering will not change as a result of a change in the mix of the units and pre-funded units sold. This offering also relates to the shares of common stock issuable upon exercise of any pre-funded warrants sold in this offering.

Common the offering

Common warrants to purchase an aggregate of 4,672,897 shares of our common stock. Each unit and each pre-funded unit includes a common warrant to purchase one share of our common stock. Each common warrant will have an exercise price per share equal to \$ per share, will be immediately offered by us in separable from the common stock or pre-funded warrant, as the case may be, will be immediately exercisable and will expire on the five year anniversary of the original issuance date. This prospectus also relates to the offering of the shares of common stock issuable upon exercise of the common warrants.

Common stock outstanding prior to this offering 11,482,480 shares of common stock.

Common stock outstanding after this offering

16,155,377 shares of common stock (assuming the sale of all securities offered hereby, at the assumed public offering price of \$1.07 per unit, the closing sale price of our common stock on the Nasdaq Capital Market on May 11, 2018, and assuming no exercise of any pre-funded warrants included in the pre-funded units sold in this offering and no exercise of the common warrants issued in this offering).

Use of We intend to use the proceeds received from this offering for general corporate purposes, including working capital. In the event that the gross proceeds of this offering (before placement agent fees and proceeds

offering expenses) equal or exceed \$5.0 million, then approximately \$657,000 of the proceeds will be used to pay accrued but unpaid interest under our revolving line of credit with an affiliate of our largest stockholder. See "Use of Proceeds" on page 24 of this prospectus.

Risk factors Investing in our securities involves a high degree of risk. For a discussion of factors to consider before deciding to invest in our securities, you should carefully review and consider the "Risk Factors" section of this prospectus, as well as the risk factors described or referred to in any documents incorporated by reference in this prospectus, and in any applicable prospectus supplement.

Trading Symbol Our common stock is listed on the Nasdaq Capital Market under the symbol "KOOL". There is no established trading market for the warrants, and we do not expect a trading market to develop. We do not intend to list the warrants on any securities exchange or other trading market. Without a trading market, the liquidity of the warrants will be extremely limited. We do not plan on applying to list the pre-funded warrants or the common warrants on the Nasdaq Capital Market, any national securities exchange or any other nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants or common warrants will be limited.

The number of shares of common stock outstanding after this offering as reflected in the table above, is based on the actual number of shares outstanding as of May 11, 2018, which was 11,482,480, and does not include, as of that date:

76,239 shares of our common stock issuable upon the exercise of outstanding stock options under our 2006 Incentive Plan, having a weighted average exercise price of \$13.03 per share;

12,396 shares of our common stock issuable upon the exercise of outstanding stock options under our 2012 Independent Director Plan, having a weighted average exercise price of \$21.87 per share;

1,117,775 shares of our common stock issuable upon the exercise of outstanding stock options under our 2016 Equity Incentive Plan, having a weighted average exercise price of \$3.01 per share;

4,435,012 shares of our common stock issuable upon the exercise of outstanding warrants, having a weighted average exercise price of \$9.13 per share;

1,976,291 shares of common stock issuable upon conversion of the Amended Note (which will increase to approximately 7,679,439 shares if our stockholders approve a proposal to eliminate the 19.99% conversion blocker in the Amended Note at our next annual stockholder meeting and after giving effect to an anti-dilution adjustment in the Amended Note based on an assumed public offering price of \$1.07 per unit in this offering, the last reported sale price of our common stock on the Nasdaq Capital Market on May 11, 2018); and

shares of common stock issuable upon exercise of warrants offered hereby.

Unless otherwise indicated, all information contained in this prospectus assumes no exercise of the warrants offered hereby.

8

RISK FACTORS

An investment in our securities involves a high degree of risk. Before deciding to invest in our securities or to maintain or increase your investment, you should carefully consider the risks described below, in addition to the other information contained in this prospectus, our Transition Report on Form 10-K, our Quarterly Reports on Form 10-Q, our Current Reports on Form 8-K, and in our other filings with the Securities and Exchange Commission. The risks and uncertainties described below are not the only ones that we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business and results of operations. If any of these risks actually occur, our business, financial condition or results of operations could be seriously harmed. In that event, the market price for our common stock could decline and you may lose all or part of your investment.

Risks Related to Our Business

The Equity in our ThermoGenesis Subsidiary is 20% Owned by a Third Party that Holds Certain Minority Investor Rights in that Subsidiary, and Those Rights Could Limit or Delay Our Ability to Take Certain Major Actions Relating to ThermoGenesis.

Immediately prior to our acquisition of the assets and business of SynGen Inc. in July 2017, we contributed the assets and business of our blood and bone-marrow processing device business to our ThermoGenesis Corp. subsidiary. Substantially all of our historical revenues are attributable to our device business, and as a result of such contribution, the device business is now owned and operated by ThermoGenesis. In connection with the SynGen Transaction, we issued shares of ThermoGenesis common stock to SynGen resulting in SynGen owning 20% of the outstanding stock of ThermoGenesis on a post-transaction basis, and such common stock was thereafter transferred to Bay City Capital Fund V, L.P. and an affiliated fund (Bay City). Under the agreements relating to the SynGen Transaction, although we continue to own 80% of the outstanding capital stock of ThermoGenesis, Bay City was granted certain minority investor rights in ThermoGenesis. These rights include board representation rights, a right of first refusal over sales of ThermoGenesis stock by us, co-sale rights with respect to any sale of ThermoGenesis stock by us, and supermajority protective voting rights over certain major decisions, such as a sale of ThermoGenesis, raising capital in ThermoGenesis with preferred stock, transfers of ThermoGenesis assets, or redemptions of ThermoGenesis stock. In addition, the board of directors of ThermoGenesis is comprised of five persons, two of whom are designated by us, one of whom is designated by Bay City, one of whom is designated by us but must be independent, and one of whom is designated by Bay City but must be independent. The foregoing minority investor rights in ThermoGenesis could limit or delay our ability or flexibility to take certain major actions or make major decisions relating to ThermoGenesis that might be beneficial to our stockholders, unless such actions or decisions have the consent or support of Bay City. Accordingly, the minority investor rights in ThermoGenesis could have a negative impact on the market price of our common stock.

We May Not be Able to Successfully Recognize the Anticipated Benefits from the SynGen Transaction or Retain Key Acquisition Employees.

On July 7, 2017, our ThermoGenesis subsidiary acquired the business and substantially all of the assets of SynGen, a privately held Sacramento, California-based technology company that develops, markets, and sells advanced cell separation tools and accessories. The success of the SynGen Transaction depends on our ability to leverage the intellectual property, other assets, and acquired personnel of SynGen in order to increase our sales and profitability. In order to successfully achieve this, we will need to integrate the businesses and employees of SynGen and ThermoGenesis and motivate such employees. This will place significant demands on our management, our operational and financial systems, our infrastructure, and our other resources. If we do not effectively manage this process, our ability to grow the consolidated business in the manner anticipated by the acquisition will suffer, and we may lose key employees that we acquired from SynGen.

Our Controlling Stockholder Has Significant Influence Over Us Which Could Limit Your Ability to Influence the Outcome of Key Transactions, Including a Change of Control, and Could Negatively Impact the Market Price of Our Common Stock By Discouraging Third Party Investors.

As of May 11, 2018, approximately 60% of our outstanding common stock is owned by Boyalife (Hong Kong) Limited. In addition, pursuant to the terms of the Amended Nomination Agreement we entered into with Boyalife (Hong Kong) Limited in April 2018, Boyalife (Hong Kong) Limited has the right to designate a number of members of our Board of Directors that is in proportion to the "Boyalife Ownership Percentage", which is Boyalife (Hong Kong) Limited's and its affiliates' combined percentage ownership of outstanding common stock, treating as outstanding any shares of common stock underlying convertible securities that are immediately exercisable by Boyalife (Hong Kong) Limited and its affiliates' (including under the debt facility) without any further payment (Boyalife Ownership Percentage). The Amended Nomination Agreement will terminate according to its terms when and if the Boyalife Ownership Percentage falls below 20%.

9

Table of Contents

Boyalife (Hong Kong) Limited is 100% owned by Yishu Li, the spouse of Dr. Xiaochun Xu, our CEO and chairman of our board of directors. As a result of their ownership and ability to designate members of our Board of Directors, Boyalife (Hong Kong) Limited (including Dr. Xu and his spouse Ms. Li) is able to exercise significant influence over all matters affecting us, including the election of directors, formation and execution of business strategy and approval of mergers, acquisitions and other significant corporate transactions, which may have an adverse effect on our stock price and ability to execute our strategic initiatives. They may have conflicts of interest and interests that are not aligned with those of other investors in all respects. As a result of the concentrated ownership of our common stock, Dr. Xu and Ms. Li, acting together, are able to control all matters requiring stockholder approval, including the election of directors, the adoption of amendments to our certificate of incorporation and bylaws, and approval of a sale of our Company, and other significant corporate transactions. This concentration of ownership may delay or prevent a change in control and may have a negative impact on the market price of our common stock by discouraging third party investors from investing or making tender offers for our shares.

In addition, a company owned and controlled by Dr. Xu is a material creditor of our company. We are a party to a revolving debt facility with Boyalife Asset Holding II, Inc., a company owned and controlled by Dr. Xu, which has a maximum borrowing availability of \$10.0 million and an outstanding balance as of March 31, 2018 of \$7.2 million in principal and \$1.1 million in accrued interest. The debt facility matures on March 6, 2022, with accrued interest being paid annually on the last day of each calendar year. Because this debt facility is secured by all of our shares in our ThermoGenesis subsidiary, an event of default under the debt facility would have a material adverse impact on our interest in ThermoGenesis if the lender under the debt facility elected to foreclose on such security interest.

We Utilize Debt Financing from Outside the U.S. and an Inability to Obtain Funds when Requested Could Adversely Impact Operations.

We use debt financing for working capital and other cash requirements under a revolving debt facility with Boyalife Asset Holding II, Inc. Our ability to use this funding source may be impacted by reasons such as default or foreign government policies that restrict or prohibit transferring funds. In the event that we were not able to obtain funds as needed, it could result in delays to project funding or non-compliance with cash based covenants.

Our Potential Cell Therapy Products and Technologies Are In Early Stages Of Development.

The development of new cell therapy products is a highly risky undertaking, and there can be no assurance that any future research and development efforts we may undertake will be successful. Our potential products in vascular, orthopedic, hematological/oncological and wound care indications will require extensive additional research and development and regulatory approval before any commercial introduction. There can be no assurance that any future research, development and clinical trial efforts will result in viable products or meet efficacy standards.

We Intend To Rely On Third Parties For Certain Functions In Conducting Clinical Trials Of Our Product Candidates.

We intend to rely on third parties for certain clinical trial activities of our products. In this regard, we have an agreement with Fortis Healthcare Limited, a hospital chain networked throughout India and Asia, for contract clinical trial services programs among other services. If our agreement with Fortis Healthcare Limited is terminated or we are unable to rely on other third parties for certain clinical trial activities, our clinical trials may be delayed or cost more than anticipated.

We May Be Unable to Obtain Marketing Approval from the FDA For Our 510(k) Devices which may Delay or Reduce Future Sales.

At the end of 2016, the Company received approval from the FDA for the Company's amended pivotal study protocol for treatment of CLI. The amended CLI clinical trial is designed to demonstrate the safety and efficacy of the Company's point-of-care system for the treatment of CLI patients with limited or no treatment options. The changes approved by the FDA are intended to increase patient enrollment by expanding the patient pool from Rutherford Category 5 patients only, to also include Rutherford Category 4 patients, or patients with a less severe form of the disease. The study population has been expanded to include patients who are poor candidates for either surgery or endovascular therapies. The sample size of the CLI trial was increased from 224 to 362 patients. With the FDA approval of our amended phase III clinical trial protocol of CLI, the Company is actively looking for an external strategic partner to move forward with the CLI clinical trial program. The marketing approval of our point-of-care device for the treatment of CLI indication is subject to a successful strategic partnership, successful completion of our phase III study with statistical significant results and acceptance of the results by the FDA for the disease indication. There can be no assurance that we will find a strategic partner or if we do, enter into an agreement on terms that are advantageous to us. Our inability to successfully complete any of the above mentioned steps, including entering into an agreement with a strategic partner, would have an adverse effect on our ability to obtain marketing approval in the United States.

10

Delays In The Commencement Or Completion Of Clinical Testing Of Our Products Could Result In Increased Costs To Us And Delay Our Ability To Generate Revenues.

Delays in the commencement or completion of clinical testing could significantly impact our product development costs. We do not know whether current or planned clinical trials will begin on time or be completed on schedule, if at all. The commencement of clinical trials can be delayed for a variety of reasons, including delays in:

Obtaining regulatory approval to commence a clinical trial;

Having the necessary funding in place to conduct the clinical trial;

Reaching agreement on acceptable terms with prospective contract research organizations and clinical trial sites for phase II and III trials;

Obtaining proper devices for any or all of the product candidates;

Obtaining institutional review board approval to conduct a clinical trial at a prospective site; and

Recruiting participants for a clinical trial.

In addition, once a clinical trial has begun, it may be suspended or terminated by us or the FDA or other regulatory authorities due to a number of factors, including:

Failure to conduct the clinical trial in accordance with regulatory requirements;

Inspection of the clinical trial operations or clinical trial site by the FDA or other regulatory authorities resulting in the imposition of a clinical hold;

Failure to achieve certain efficacy and/or safety standards;

Reports of serious adverse events including but not limited to death of trial subjects; or

Lack of adequate funding to continue the clinical trial.

Our clinical therapy candidates may produce negative or inconclusive results, and we may decide, or regulators may require us, to conduct additional clinical trials or abandon product development programs that we expect to pursue.

We May Seek To Enter Into Collaborative Arrangements To Develop and Commercialize Products Which May Not Be Successful.

We may seek to enter into collaborative arrangements to develop and commercialize some of our potential products and product candidates both in North America and international markets due to funding or resource constraints. There can be no assurance that we will be able to negotiate collaborative arrangements on favorable terms or at all or that current or future collaborative arrangements will be successful. If we are unable to enter into collaborative arrangements, we may not be able to timely develop and commercialize those products.

11

A Significant Portion of Revenue is Derived from Customers Outside the United States. We may Lose Revenues, Market Share, and Profits due to Exchange Rate Fluctuations and Political and Economic Changes Related to its Foreign Business.

For the six months ended December 31, 2017 sales to customers outside the U.S. comprised approximately 67% of revenues. This compares to 54% for the year ended June 30, 2017 and 57% for the year ended June 30, 2016. Our foreign business is subject to economic, political and regulatory uncertainties and risks that are unique to each area of the world. Fluctuations in exchange rates may also affect the prices that foreign customers are willing to pay, and may put us at a price disadvantage compared to other competitors. Potentially volatile shifts in exchange rates may negatively affect our financial position and results.

The Loss of a Significant Distributor or End User Customer may Adversely Affect Financial Condition and Results of Operations.

Revenues from a significant distributor comprised 12% and 28% of revenues for the three months ended March 31, 2018 and six months ended December 31, 2017, respectively. The loss of a large end user customer or distributor may decrease revenues, which could have a material adverse effect on our financial position and results.

We may be Exposed to Liabilities under the Foreign Corrupt Practices Act and any Determination that we Violated these Laws could have a Material Adverse Effect on our Business.

We are subject to the Foreign Corrupt Practices Act (FCPA), and other laws that prohibit improper payments or offers of payments to foreign governments and their officials and political parties by U.S. persons and issuers as defined by the statute, for the purpose of obtaining or retaining business. It is our policy to implement safeguards to discourage these practices by our employees. However, our existing safeguards and any future improvements may prove to be less than effective and our employees, consultants, sales agents or distributors may engage in conduct for which we might be held responsible. Violations of the FCPA may result in severe criminal or civil sanctions and we may be subject to other liabilities, which could negatively affect our business, operating results and financial condition.

Our Pending Litigation with Mavericks Capital could have a Material Adverse Effect on Us.

We are currently defending a lawsuit brought by Mavericks Capital LLC and Mavericks Capital Securities LLC against us and our CEO in California Superior Court arising from a July 2015 agreement between us and Mavericks in which Mavericks agreed to assist our Company in finding strategic partners. The complaint in the lawsuit alleges that

we breached the Mavericks agreement by failing to pay Mavericks a \$1 million "Transaction Fee" in connection with investment transactions between us and the Boyalife companies. Mavericks alleges that the Boyalife investment and associated conversion of Boyalife debt was a "Sale of the Company" within the meaning of the Mavericks agreement and therefore allegedly triggered the payment of a fee to Mavericks. The complaint seeks compensatory and special damages, interest, costs, and attorneys' fees. On June 22, 2017, we answered the complaint, denying all material allegations. In October 2017, to streamline the case and without acknowledging any liability, we deposited \$1.0 million with the court in the case (obtained from drawing down our line of credit with Boyalife Investment Fund II, Inc.). Mavericks has also dismissed our CEO from the case without liability. As of May 11, 2018, the parties were engaged in discovery, we have filed a Motion for Summary Judgement and no trial date has been set. Although we deny liability in this case and intend to defend it vigorously, there is no assurance that the outcome of the case and resulting legal fees will not have a material adverse effect on our financial condition.

Another Broker-Dealer has Asserted that They Are Entitled to a Tail Commission with Respect to Certain Investors in this Offering, Which May have a Material Adverse Effect on Us.

On January 31, 2018, we engaged another broker-dealer (the "BD") to serve as the lead managing underwriter for a proposed underwritten public offering of our common stock. The BD was not able to complete an underwritten public offering of our common stock prior to the end of the engagement period specified in our engagement agreement with the BD, which was February 16, 2018. Following the expiration of the engagement period, we completed a registered direct offering of 609,636 shares and 304,818 warrants on March 28, 2018. On March 28, 2018, we received a letter from the BD stating that, pursuant to the terms of their engagement agreement, the BD is entitled to a tail commission of 8% on proceeds received in the March 2018 registered direct offering from any investors with whom we met during the BD engagement, and the BD further stated in such letter that they would be entitled to an 8% tail commission on any proceeds received from such investors in any offering that occurs prior to August 16, 2018 (which would include this offering). We do not believe that the BD is entitled to a tail commission under the terms of their engagement agreement because, among other reasons, they were not prepared to proceed with an underwritten offering of common stock during the engagement period, but the BD disagrees and has informed us that they may file a legal action to enforce their alleged rights. Although we intend to vigorously defend any such claim filed by the BD, if the BD continues to assert that it is entitled to a tail commission and files a legal claim, there is no assurance that the outcome of the case and resulting legal fees will not have a material adverse effect on our financial condition.

12

Risks Related to Our Operations

We Do Not Have Commercial-Scale Manufacturing Capability And Have Minimal Commercial Manufacturing Experience.

We operate cGMP manufacturing facilities for both devices and cellular production; however, they are not of sufficient size for medium to large commercial production of product candidates. We do not have large scale experience in manufacturing, and currently lack the resources and the capability to manufacture any of our product candidates on a clinical or commercial scale. Accordingly, we expect to depend on third-party contract manufacturers for the foreseeable future. Any performance failure on the part of our contract manufacturers could delay clinical development, regulatory approval or commercialization of our current or future products, depriving us of potential product revenues and resulting in additional losses.

We Have Limited Sales, Marketing and Distribution Capabilities which May Limit our Ability to Significantly Increase Sales Quickly.

We have limited internal capabilities in the sales, marketing, and distribution areas. There can be no assurance that we will be able to establish sales, marketing, and distribution capabilities internally or make arrangements with current collaborators or others to perform such activities or that such effort will be successful. If we decide to market any of our new products directly, we must either partner, acquire or internally develop a marketing and sales force with technical expertise and with supporting distribution capabilities. The acquisition or development of a sales, marketing and distribution infrastructure would require substantial resources, which may not be available to us or, even if available, divert the attention of our management and key personnel, and have a negative impact on further product development efforts.

Our Inability to Protect our Patents, Trademarks, Trade Secrets and other Proprietary Rights could Adversely Impact our Competitive Position.

We believe that our patents, trademarks, trade secrets and other proprietary rights are important to our success and our competitive position. Accordingly, we commit substantial resources to the establishment and protection of our patents, trademarks, trade secrets and proprietary rights. We use various methods, including confidentiality agreements with employees, vendors, and customers, to protect our trade secrets and proprietary know-how for our products. We currently hold patents for products, and have patents pending in certain countries for additional products that we market or intend to market. However, our actions to establish and protect our patents, trademarks, and other proprietary rights may be inadequate to prevent imitation of our products by others or to prevent others from claiming violations of their trademarks and proprietary rights by us. If our products are challenged as infringing upon patents of

other parties, we may be required to modify the design of the product, obtain a license, or litigate the issues, all of which may have an adverse business effect on us.

13

We may be Subject to Claims that our Products or Processes Infringe the Intellectual Property Rights of Others, which may Cause us to Pay Unexpected Litigation Costs or Damages, Modify our Products or Processes or Prevent us from Selling our Products.

Although it is our intention to avoid infringing or otherwise violating the intellectual property rights of others, third parties may nevertheless claim that our processes and products infringe their intellectual property and other rights. Our strategies of capitalizing on growing international demand as well as developing new innovative products across multiple business lines present similar infringement claim risks both internationally and in the U.S. as we expand the scope of our product offerings and markets. We compete with other companies for contracts in some small or specialized industries, which increase the risk that the other companies will develop overlapping technologies leading to an increased possibility that infringement claims will arise. Whether or not these claims have merit, we may be subject to costly and time-consuming legal proceedings, and this could divert management's attention from operating our business. In order to resolve such proceedings, we may need to obtain licenses from these third parties or substantially re-engineer or rename our products in order to avoid infringement; provided, however, we might not be able to obtain the necessary licenses on acceptable terms, or at all, or be able to re-engineer or rename our products successfully.

We Commercially, in Co-Branding with Fortis Healthcare, Bank and Store Private Cord Blood Stem Cells in our TotipotentRX cGMP Facility. We could be Subject to Unexpected Litigation Costs or Damages for Loss of One or More Family Owned Units of Cord Blood or if one of the Cord Blood Units We Store Causes Bodily Injury.

We face an inherent business risk of exposure to product liability claims if our products or product candidates are alleged or found to have caused injury, or cannot be used for some reason within our control and are found to result in injury or death. While we believe that our current liability insurance coverage is adequate for our present clinical and commercial activities we may not be able to maintain insurance on acceptable terms or at all. If we are unable to obtain insurance or any claims against us substantially exceed our coverage, then our business could be adversely impacted.

We may not be able to Protect our Intellectual Property in Countries Outside the United States.

Intellectual property law outside the United States is uncertain and in many countries is currently undergoing review and revisions. The laws of some countries do not protect our patent and other intellectual property rights to the same extent as United States laws. This is particularly relevant to us as a significant amount of our current and projected future sales are outside of the United States. Third parties may attempt to oppose the issuance of patents to us in foreign countries by initiating opposition proceedings. Opposition proceedings against any of our patent filings in a foreign country could have an adverse effect on our corresponding patents that are issued or pending in the United States. It may be necessary or useful for us to participate in proceedings to determine the validity of our patents or our

competitors' patents that have been issued in countries other than the U.S. This could result in substantial costs, divert our efforts and attention from other aspects of our business, and could have a material adverse effect on our results of operations and financial condition.

14

Any Failure to Achieve and Maintain the High Design and Manufacturing Standards that our Products Require may Seriously Harm our Business.

Our products require precise, high-quality manufacturing. Achieving precision and quality control requires skill and diligence by our personnel as well as our vendors. Our failure to achieve and maintain these high manufacturing standards, including the incidence of manufacturing errors, design defects or component failures could result in patient injury or death, product recalls or withdrawals, delays or failures in product testing or delivery, cost overruns or other problems that could seriously hurt our business. Additionally, the large amount of AutoXpress® (AXP) disposable inventory certain distributors and end-users maintain may delay the identification of a manufacturing error and expand the financial impact. A manufacturing error or defect, or previously undetected design defect, or uncorrected impurity or variation in a raw material component, either unknown or undetected, could affect the product. Despite our very high manufacturing standards, we cannot completely eliminate the risk of errors, defects or failures. If we or our vendors are unable to manufacture our products in accordance with necessary quality standards, our business and results of operations may be negatively affected.

Our Revenues and Operating Results may be Adversely Affected as a Result of our Required Compliance with the Adopted EU Directive on the Restriction of the Use of Hazardous Substances in Electrical and Electronic Equipment, as well as other Standards Around the World.

A number of domestic and foreign jurisdictions seek to restrict the use of various substances, a number of which have been or are currently used in our products or processes. For example, the EU Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive now requires that certain substances, which may be found in certain products we have manufactured in the past, be removed from all electronics components. Other countries, such as China, have enacted or may enact laws or regulations similar to RoHS. Eliminating such substances from our manufacturing processes requires the expenditure of additional research and development funds to seek alternative substances for our products, as well as increased testing by third parties to ensure the quality of our products and compliance with the RoHS Directive. While we have implemented a compliance program to ensure our product offerings meet these regulations, there may be instances where alternative substances will not be available or commercially feasible, or may only be available from a single source, or may be significantly more expensive than their restricted counterparts. Therefore, we have focused our compliance efforts on those products and geographical areas in which we have the highest revenue potential. Our failure to comply with past, present and future similar laws could result in reduced sales of our products, substantial product inventory write-offs, reputation damage, penalties and other sanctions, any of which could harm our business and operating results.

Compliance with Government Regulations Regarding the Use of "Conflict Minerals" may Result in Additional Expense and Affect our Operations.

The SEC has adopted a final rule to implement Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which imposes new disclosure requirements regarding the use of "conflict minerals" mined from the Democratic Republic of Congo and adjoining countries. These minerals include tantalum, tin, gold and tungsten. We may incur significant costs associated with complying with the new disclosure requirements, including, but not limited to, costs related to determining which of our products may be subject to the rules and identifying the source of any "conflict minerals" used in those products. Additionally, implementing the new requirements could adversely affect the sourcing, supply and pricing of materials used in the manufacture of our products. We may also face reputational challenges if we are unable to verify through our compliance procedures the origins for all metals used in our products.

15

Our Products may be Subject to Product Recalls which may Harm our Reputation and Divert our Managerial and Financial Resources.

The FDA and similar governmental authorities in other countries have the authority to order the mandatory recall of our products or order their removal from the market if the governmental entity finds our products might cause adverse health consequences or death. The FDA may also seize product or prevent further distribution. A government-mandated or voluntary recall by us could occur as a result of component failures, manufacturing errors or design defects (including labeling defects). In the past, we have initiated voluntary recalls of some of our products and we could do so in the future. Any recall of our products may harm our reputation with customers, divert managerial and financial resources and negatively impact our profitability.

We are Dependent on our Suppliers and Manufacturers to Meet Existing Regulations.

Certain of our suppliers and manufacturers are subject to heavy government regulations, including FDA Quality System Regulations (QSR) compliance, in the operation of their facilities, products and manufacturing processes. Any adverse action by the FDA against our suppliers or manufacturers could delay supply or manufacture of component products required to be integrated or sold with our products. Although we attempt to mitigate this risk through inventory held directly or through distributors, and audit our suppliers, there are no assurances we will be successful in identifying issues early enough to allow for corrective action or transition to an alternative supplier, or in locating an alternative supplier or manufacturer to meet product shipment or launch deadlines. As a result, our sales, contractual commitments and financial forecasts may be significantly affected by any such delays.

Dependence on Suppliers for Disposable Products and Custom Components May Impact the Production Schedule.

We obtain certain disposable products and custom components from a limited number of suppliers. If the supplier raises the price or discontinues production, we may have to find another qualified supplier to provide the item or re-engineer the item; provided; however, no assurances can be provided that we will be able to find another qualified supplier on a timely basis or at all. In the event that it becomes necessary for us to find another supplier, we would first be required to qualify the quality assurance systems and product quality of that alternative supplier. Any operational issues with re-engineering or the alternative qualified supplier may impact the production schedule, therefore delaying revenues, and this may cause the cost of disposables or key components to increase, which could have a material adverse effect on our business and operations.

Failure to Meet the Financial Covenant in our Technology License and Escrow Agreement could Decrease our AXP Revenues.

Under our license and escrow agreement with CBR Systems, Inc. if we fail to meet the financial covenant of cash balance and short-term investments net of debt or borrowed funds that are payable within one year of not less than \$2,000,000, they may take possession of the escrowed intellectual property and initiate manufacturing of the applicable device and disposables. If this were to occur, our revenues would be negatively impacted. In order to remain compliant, we may have to complete additional financings or provide consideration to the counter party to modify the obligations.

Failure to Retain or Hire Key Personnel may Adversely Affect our Ability to Sustain or Grow our Business.

Our ability to operate successfully and manage our potential future growth depends significantly upon retaining key research, technical, clinical, regulatory, sales, marketing and managerial personnel. Our future success partially depends upon the continued services of key technical and senior management personnel. Our future success also depends on our continuing ability to attract, retain and motivate highly qualified managerial and technical personnel. The inability to retain or attract qualified personnel could have a significant negative effect upon our efforts and thereby materially harm our business and future financial condition.

16

Most of Our Operations Are Conducted At A Single Location. Any Disruption At Our Facilities Could Delay Revenues Or Increase Our Expenses.

Our U.S. device operations are conducted at a single location although we contract the manufacturing of certain devices, disposables and components. We take precautions to safeguard our facilities, through insurance, health and safety protocols, and off-site storage of computer data. However, a natural disaster, such as a fire, flood or earthquake, could cause substantial delays in our operations, damage or destroy our manufacturing equipment or inventory, and cause us to incur additional expenses. The insurance we maintain against fires and other natural disasters may not be adequate to cover our losses in any particular case.

Failure to Maintain and/or Upgrade Our Information Technology Systems May Have an Adverse Effect on Our Operations.

We rely on various information technology systems to manage our operations, and we evaluate these systems against our current and expected requirements. We have purchased a new Enterprise Resource Planning (ERP) system and are in the implementation process. Until the new system is fully implemented, any information technology system disruptions, if not anticipated and appropriately mitigated, could have an adverse effect on our business and operations.

If we Fail to Maintain Proper and Effective Internal Controls, our Ability to Produce Accurate and Timely Financial Statements Could be Impaired, which Could Harm our Operating Results, our Ability to Operate our Business and Investors' Views of Us.

We are required to establish and maintain adequate internal control over financial reporting, which are processes designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. We are also required to comply with Section 404 of the Sarbanes-Oxley Act of 2002, which (among other things) requires public companies to conduct an annual review and evaluation of their internal control over financial reporting. If we fail to comply with the rules under the Sarbanes-Oxley Act, related to disclosure controls and procedures, or if we discover additional material weaknesses and other deficiencies in our internal control and accounting procedures, our stock price could decline significantly and raising capital could be more difficult. Moreover, effective internal controls are necessary for us to produce reliable financial reports and are important in helping prevent financial fraud. If we cannot provide reliable financial reports or prevent fraud, our business and operating results could be harmed, investors could lose confidence in our reported financial information, and the trading price of our common stock could drop significantly.

Security Breaches and Other Disruptions Could Compromise our Information and Expose us to Liability, Which Would Cause our Business and Reputation to Suffer.

In the ordinary course of the Company's business, the Company collects and stores sensitive data, including intellectual property, our proprietary business information and that of our customers, suppliers and business partners and personally identifiable information of the Company's employees on its networks. The secure processing, maintenance and transmission of this information is critical to the Company's operations and business strategy. Despite the Company's security measures, its information, technology and infrastructure may be vulnerable to attacks by hackers or breached due to employee error, malfeasance or other disruptions. Any such breach could compromise the Company's networks and the information stored there could be accessed, publicly disclosed, lost or stolen. Any such access, disclosure or other loss of information could result in legal claims or proceedings or regulatory penalties and could disrupt the Company's operations and the services it provides to customers, damage the Company's reputation, and cause a loss of confidence in the Company's products and services, which could adversely affect the Company's business.

17

Risks Related to Our Industry

Our Business is Heavily Regulated, Resulting in Increased Costs of Operations and Delays in Product Sales.

Many of our products require FDA approval or clearance to market and sell in the U.S. and will require approvals from comparable agencies to sell in foreign countries. These authorizations may limit the U.S. or foreign markets in which our products may be sold. Further, our products must be manufactured under requirements of our quality system for continued CE-Marking so they can continue to be marketed and sold in Europe. These requirements are similar to the QSR of both the FDA and California Department of Public Health. Failure to comply with or incorrectly interpret these quality system requirements and regulations may subject us to delays in production while we correct deficiencies found by the FDA, the State of California, or our notifying body as a result of any audit of our quality system. If we are found to be out of compliance, we could receive a Warning Letter or an untitled letter from the FDA or even be temporarily shut down in manufacturing and product sales while the non-conformances are rectified. Also, we may have to recall products and temporarily cease their manufacture and distribution, which would increase our costs and reduce our revenues. The FDA may also invalidate our pre-market approval (PMA) or 510(k) if appropriate regulations relative to the PMA or 510(k) product are not met. The notified bodies may elect to not renew CE-Mark certification. Any of these events would negatively impact our revenues and costs of operations.

Changes in Governmental Regulations May Reduce Demand for our Products or Increase our Expenses.

We compete in many markets in which we and our customers must comply with federal, state, local and international regulations, such as environmental, health and safety and food and drug regulations. We develop, configure and market our products to meet customer needs created by those regulations. Any significant change in regulations could reduce demand for our products or increase our expenses. For example, many of our instruments are marketed to the industry for enabling new regenerative therapies. Changes in the FDA's regulation of the devices and products directed at regenerative medicine, and development process for new therapeutic applications could have an adverse effect on the demand for these products.

To Sell in International Markets, We will be Subject to Regulation in Foreign Countries.

In cooperation with our distribution partners, we intend to market our current and future products both domestically and in many foreign markets. A number of risks are inherent in international transactions. In order for us to market our products in certain non-U.S. jurisdictions, we need to obtain and maintain required regulatory approvals or clearances and must comply with extensive regulations regarding safety, manufacturing processes and quality. These regulations, including the requirements for approvals or clearances to market, may differ from the FDA regulatory scheme. International sales also may be limited or disrupted by political instability, price controls, trade restrictions and

changes in tariffs. Additionally, fluctuations in currency exchange rates may adversely affect demand for our products by increasing the price of our products in the currency of the countries in which the products are sold.

18

Table of Contents

There can be no assurance that we will obtain regulatory approvals or clearances in all of the countries where we intend to market our products, or that we will not incur significant costs in obtaining or maintaining foreign regulatory approvals or clearances, or that we will be able to successfully commercialize current or future products in various foreign markets. Delays in receipt of approvals or clearances to market our products in foreign countries, failure to receive such approvals or clearances or the future loss of previously received approvals or clearances could have a substantial negative effect on our results of operations and financial condition.

Operating in Foreign Jurisdictions Subjects Us to Regulation by Non-U.S. Authorities

We have operations in India, and as such are subject to Indian regulatory agencies. A number of risks are inherent in conducting business and clinical operations overseas. In order for us to operate as a majority owned foreign corporation in India, we are subject to financial regulations imposed by the Reserve Bank of India. This includes the rules specific to the capital funding, pledging of assets, repatriation of funds and payment of dividends from and to the foreign subsidiaries and from and to us in the U.S.

In order for us to manufacture and/or market our services and products in India, we need to obtain and maintain required regulatory approvals or clearances and must comply with extensive regulations regarding safety, manufacturing processes and quality. These regulations, including the requirements for approvals or clearances to market, and/or export may differ from the FDA regulatory scheme. Additionally, in order for us to complete clinical trials, clinical trial services and cell banking in India, and other foreign jurisdictions, we need to obtain and maintain approvals and licenses which comply with extensive regulations of the appropriate regulatory body.

International operations also may be limited or disrupted by political, economic or social instability, price controls, trade restrictions and changes in tariffs as ordered by various governmental agencies. Additionally, fluctuations in currency exchange rates may adversely affect the cost of production for our products by increasing the price of materials and other inputs for our products in the currency of the countries in which the products are sold.

If Our Competitors Develop and Market Products That Are More Effective Than Our Product Candidates Or Obtain Regulatory and Market Approval For Similar Products Before We Do, Our Commercial Opportunity May Be Reduced Or Eliminated.

The development and commercialization of new pharmaceutical products which target cardiovascular, orthopedic, chronic dermal wounds and other conditions addressed by our current and future products is competitive, and we will face competition from numerous sources, including major biotechnology and pharmaceutical companies worldwide. Many of our competitors have substantially greater financial and technical resources, and development, production and marketing capabilities than we do. In addition, many of these companies have more experience than we do in

pre-clinical testing, clinical trials and manufacturing of compounds, as well as in obtaining FDA and foreign regulatory approvals. As a result, there is a risk that our competitors may develop a more effective product for the same indications for which we are developing a product or, alternatively, bring a similar product to market before we can. With regards to the BioArchive and AXP Systems, numerous larger and better-financed medical device manufacturers may choose to enter this market. Any of the foregoing may have a material adverse effect on our results of operation.

Changes in Healthcare Policy Could Subject us to Additional Regulatory Requirements that may Delay the Commercialization of our Products and Increase our Costs.

The U.S. government and other governments have shown significant interest in pursuing healthcare reform. Any government-adopted reform measures could adversely impact the pricing of our diagnostic products and tests in the U.S. or internationally and the amount of reimbursement available from governmental agencies or other third party payors. The continuing efforts of the U.S. and foreign governments, insurance companies, managed care organizations and other payors of healthcare services to contain or reduce healthcare costs may adversely affect our ability to set prices for our products and services that we believe are fair, which may impact our ability to generate revenues and achieve and maintain profitability.

New laws, regulations and judicial decisions, or new interpretations of existing laws, regulations and judicial decisions, that relate to healthcare availability, methods of delivery or payment for products and services, or sales, marketing or pricing, may limit our potential revenue or force us to revise our research and development programs. The pricing and reimbursement environment may change in the future and become more challenging for several reasons, including policies advanced by the current executive administration in the U.S., new healthcare legislation or fiscal challenges faced by government health administration authorities. Specifically, in both the U.S. and certain foreign jurisdictions, there have been a number of legislative and regulatory proposals to change the healthcare system in ways that could affect our ability to sell our products profitably.

For example, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act (PPACA), has substantially changed the way healthcare is financed by both government health plans and private insurers. The PPACA contains a number of provisions that are expected to impact our business and operations in ways that may negatively affect our revenues in the future. While it is too early to predict all the specific effects the PPACA or any future healthcare reform legislation will have on our business, such provisions could materially adversely affect our business, prospects and financial condition.

The Food and Drug Administration Amendments Act of 2007 gives the FDA enhanced post-marketing authority, including the authority to require post-marketing studies and clinical studies of products, labeling changes based on new safety information, and compliance with risk evaluations and mitigation strategies approved by the FDA. The FDA's exercise of this authority could result in delays or increased costs during product development, clinical studies and regulatory review, increased costs to assure compliance with post-approval regulatory requirements, and potential restrictions on the sale and/or distribution of approved products, all of which could materially adversely affect our business, prospects and financial condition.

19

Product Liability and Uninsured Risks May Adversely Affect the Continuing Operations.

We operate in an industry susceptible to significant product liability claims. Additionally, our cGMP laboratory within Fortis Memorial Research Institute in Gurgaon, India, processes stem cells for certain uses under a physician's order, and we charge for these services. We may be liable if any of our products or services cause injury, illness, or death. These claims may be brought by individuals seeking relief or by groups seeking to represent a class. We also may be required to recall certain of our products should they become damaged or if they are defective. We are not aware of any material product liability claims against us. However, product liability claims may be asserted against us in the future based on events we are not aware of at the present time. We maintain a product liability policy and a general liability policy that includes product liability coverage. However, a product liability claim against us could have a material adverse effect on our business or financial condition.

Risks Related to Operating Results and Financial Markets

We Have Incurred Net Losses and We Anticipate that our Losses will Continue.

We have not been profitable for a significant period. For the three months ended March 31, 2018 and six months ended December 31, 2017, we had a net loss of \$3,370,000 and \$2,770,000, respectively. For fiscal years ended June 30, 2017 and 2016, we had a net loss of \$29,095,000 and \$18,588,000, respectively, and an accumulated deficit at March 31, 2018, of \$190,679,000. We will continue to incur significant costs as we develop and market our current products and related applications. Although we are executing our business plan to develop, market and launch new products, continuing losses may impair our ability to fully meet our objectives for new product sales or threaten our ability to continue as a going concern in future years.

Our Financial Statements Include an Explanatory Paragraph that Expresses Substantial Doubt About our Ability to Continue as a Going Concern, Indicating the Possibility that We May Not be able to Operate in the Future.

Primarily as a result of our losses incurred to date, our expected continued future losses, and limited cash balances, we have included an explanatory paragraph in our financial statements expressing substantial doubt about our ability to continue as a going concern. Our ability to continue as a going concern is contingent upon, among other factors, the sale of the shares of our common stock or obtaining alternate financing.

We Will Need to Raise Additional Capital to Fund our Operations and in Furtherance of Our Business Plan.

As of March 31, 2018, our cash balance and short-term investments was approximately \$2.9 million and our working capital was approximately \$3.9 million. Due to our recurring losses from operations and the expectation that we will continue to incur losses in the future, we will be required to raise additional capital to complete the development and commercialization of our current product candidates. We have historically relied upon private and public sales of our equity, as well as debt financings to fund our operations. At March 31, 2018, we had \$7.2 million outstanding under our Credit Agreement. In order to raise additional capital, we may seek to sell additional equity and/or debt securities or obtain a credit facility or other loan, which we may not be able to do on favorable terms, or at all. Our ability to obtain additional financing will be subject to a number of factors, including market conditions, our operating performance and investor sentiment. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue the development and/or commercialization of one or more of our product candidates, restrict our operations or obtain funds by entering into agreements on unfavorable terms.

20

Our Future Financial Results Could be Adversely Impacted by Asset Impairment Charges.

We are required to test both goodwill and intangible assets for impairment on an annual basis. We have chosen to perform our annual impairment reviews of goodwill and other intangible assets during the fourth quarter of each fiscal year. We also are required to test for impairment between annual tests if events occur or circumstances change that would more likely than not reduces our fair value below book value. These events or circumstances could include results of our on-going clinical trials, activities and results of our competitor's clinical trials, a significant change in the regulatory climate, legal factors, operating performance indicators, or other factors. If the fair market value is less than the book value, we could be required to record an impairment charge. The valuation requires judgment in estimating future cash flows, discount rates and estimated product life cycles. In making these judgments, we evaluate the financial health of the business, including such factors as industry performance, changes in technology and operating cash flows.

At March 31, 2018, we have a goodwill balance of \$13,976,000 and a net intangible assets balance of \$21,590,000, out of total assets of \$50,181,000. As a result, the amount of any annual or interim impairment could be significant and could have a material adverse effect on our reported financial results for the period in which the charge is taken.

We may Incur Significant Non-operating, Non-cash Charges Resulting from Changes in the Fair Value of Warrants.

Our Series A warrants are a derivative instrument; as such they have been recorded at their respective relative fair values at the issuance date and will be recorded at their respective fair values at each subsequent balance sheet date. Any change in value between reporting periods will be recorded as a non-operating, non-cash charge at each reporting date. The impact of these non-operating, non-cash charges could have an adverse effect on the Company's financial results. The fair value of the warrants is tied in large part to our stock price. If the stock price increases between reporting periods, the warrants become more valuable. As such, there is no way to forecast what the non-operating, non-cash charges will be in the future or what the future impact will be on our financial statements.

21

Risks Related to This Offering

Management will have Broad Discretion with Respect to the Use of the Proceeds From this Offering.

Our management will have broad discretion as to the application of the net proceeds from this offering and could use them for purposes other than those contemplated at the time of the offering. Our stockholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds. It is possible that our management may use the net proceeds for corporate purposes that may not improve our financial condition or market value.

You will Experience Immediate and Substantial Dilution in the Net Tangible Book Deficit Per Share of the Common Stock Included in the Units or Issuable Upon Exercise of the Common Warrants or Pre-funded Warrants in this Offering.

Since the effective price per share of common stock included in the units or issuable upon exercise of the common warrants or the pre-funded warrants being offered is substantially higher than the net tangible book deficit per share of our common stock outstanding prior to this offering, you will suffer immediate and substantial dilution in the net tangible book deficit of the common stock included in the units or issuable upon the exercise of the common warrants or the pre-funded warrants issued in this offering. See the section titled "Dilution" below for a more detailed discussion of the dilution you will incur if you purchase units in this offering.

The exclusive jurisdiction and waiver of trial by jury clauses set forth in the form of securities purchase agreement and the exclusive jurisdiction clause set forth in the warrants to be issued to purchasers in this offering may have the effect of limiting a purchaser's rights to bring legal action against us and could limit a purchaser's ability to obtain a favorable judicial forum for disputes with us.

Section 5.9 of the securities purchase agreement (a form of which has been filed as exhibit 10.39 of Amendment No. 2 to the Registration Statement on Form S-1 to which this prospectus forms a part), which may be executed by certain institutional investors in this offering, provides for investors to consent to exclusive jurisdiction to courts located in New York, New York and Section 5.21 provides for a waiver of the right to a trial by jury. The waiver of jury trial provision in the securities purchase agreement will not apply to claims under federal securities laws. The same exclusive jurisdiction provisions are also set forth in Section 5(e) of the warrants to be issued to purchasers in this offering (forms of which have been filed as exhibits 10.37 and 10.38 of Amendment No. 2 to the Registration Statement on Form S-1 to which this prospectus forms a part). These provisions may have the effect of limiting the ability of investors to bring a legal claim against us due to geographic limitations and/or preference for a trial by jury and may limit an investor's ability to bring a claim in a judicial forum that it finds favorable for disputes with us. Alternatively, if a court were to find this exclusive forum provision inapplicable to, or unenforceable in respect of, one

or more of the specified types of actions or proceedings, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business and financial condition.

If the Price of our Common Stock does not Meet the Requirements of the Nasdaq Capital Market, Our Shares may be Delisted. Our Ability to Publicly or Privately Sell Equity Securities and the Liquidity of Our Common Stock Could be Adversely Affected if We Are Delisted.

The listing standards of the Nasdaq Capital Market provide, among other things, that a company may be delisted if the bid price of its stock drops below \$1.00 for a period of 30 consecutive business days. Delisting from the Nasdaq Capital Market could adversely affect our ability to raise additional financing through the public or private sale of equity securities, would significantly affect the ability of investors to trade our securities and would negatively affect the value and liquidity of our common stock. Delisting could also have other negative results, including the potential loss of confidence by employees, the loss of institutional investor interest and fewer business development opportunities.

Liquidity of our Common Stock.

Although there is a public market for our common stock, trading volume has been historically low, which could impact the stock price and the ability to sell shares of our common stock. We can give no assurance that an active and liquid public market for the shares of the common stock will continue in the future. In addition, future sales of large amounts of common stock could adversely affect the market price of our common stock and our ability to raise capital. The price of our common stock could also drop as a result of the exercise of options for common stock or the perception that such sales or exercise of options could occur. These factors could also have a negative impact on the liquidity of our common stock and our ability to raise funds through future stock offerings.

22

Recently Enacted Tax Reform Legislation in the U.S. Could Adversely Affect our Business and Financial Condition.

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (Tax Act) was signed into law, making significant changes to the Internal Revenue Code. Changes under the Tax Act include, but are not limited to, a corporate tax rate decrease from 35% to 21% effective for tax years beginning after December 31, 2017, a one-time transition tax on the mandatory deemed repatriation of cumulative foreign earnings, limitation of the tax deduction for interest expense to 30% of adjusted earnings (except for certain small businesses), limitation of the deduction for net operating losses to 80% of current year taxable income and elimination of net operating loss carrybacks, one time taxation of offshore earnings at reduced rates regardless of whether they are repatriated, elimination of U.S. tax on foreign earnings (subject to certain important exceptions), immediate deductions for certain new investments instead of deductions for depreciation expense over time, and modifying or repealing many business deductions and credits (including reducing the business tax credit for certain clinical testing expenses incurred in the testing of orphan drugs). The overall impact of the new federal tax law is uncertain, and our business and financial condition could be adversely affected. For example, because of the tax rate decrease, our deferred tax assets and our corresponding valuation allowance against these deferred tax assets have been reduced and may continue to be adversely impacted. In addition, it is uncertain if and to what extent various states will conform to Tax Act and what effect that legal challenges will have on the Tax Act, including litigation in the U.S. and international challenges brought at organizations such as the World Trade Organization. The impact of the Tax Act on holders of our common stock is also uncertain and could be adverse. Investors should consult with their legal and tax advisors with respect to this legislation and the potential tax consequences of investing in or holding our common stock.

We do not Pay Cash Dividends.

We have never paid any cash dividends on our common stock and do not intend to pay cash dividends in the foreseeable future. Instead, we intend to apply earnings, if any, to the expansion and development of our business. Thus, the liquidity of your investment is dependent upon your ability to sell stock at an acceptable price. The price may increase or decrease and may limit your ability to realize any value from your investment, including the initial purchase price.

Holders of our warrants will have no rights as a common stockholder until they acquire our common stock.

Until you acquire shares of our common stock upon exercise of your warrants, you will have no rights with respect to shares of our common stock issuable upon exercise of your warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

A large number of shares issued in this offering may be sold in the market following this offering, which may depress the market price of our common stock.

A large number of shares issued in this offering may be sold in the market following this offering, which may depress the market price of our common stock. Sales of a substantial number of shares of our common stock in the public market following this offering could cause the market price of our common stock to decline. If there are more shares of common stock offered for sale than buyers are willing to purchase, then the market price of our common stock may decline to a market price at which buyers are willing to purchase the offered shares of common stock and sellers remain willing to sell the shares. All of the shares of common stock issued in the offering will be freely tradable without restriction or further registration under the Securities Act of 1933, as amended.

The warrants issued in this offering may not have any value.

Each warrant will have an exercise price equal to \$ and will expire on the fifth anniversary of the date they first become exercisable. In the event our common stock price does not exceed the exercise price of the warrants during the period when the warrants are exercisable, the warrants may not have any value.

There is no public market for the common warrants or the pre-funded warrants to purchase shares of our common stock included in the units and the pre-funded units being offered by us in this offering.

There is no established public trading market for the common warrants or the pre-funded warrants included in the units and the pre-funded units being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the common warrants or the pre-funded warrants on any national securities exchange or other nationally recognized trading system, including the Nasdaq Capital Market. Without an active market, the liquidity of the common warrants and the pre-funded warrants will be limited.

23

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

Some of the statements in this prospectus and the documents incorporated by reference constitute "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933, as amended (Securities Act) and Section 21E of the Securities Exchange Act of 1934, as amended (Exchange Act). These statements relate to future events concerning our business and to our future revenues, operating results and financial condition. In some cases, you can identify forward-looking statements by terminology such as "may," "will," "could," "would," "should," "expect," "plan," "anti "intend," "believe," "estimate," "forecast," "predict," "propose," "potential" or "continue," or the negative of those terms or of comparable terminology.

Any forward looking statements contained in this prospectus and the documents incorporated by reference are only estimates or predictions of future events based on information currently available to our management and management's current beliefs about the potential outcome of future events. Whether these future events will occur as management anticipates, whether we will achieve our business objectives, and whether our revenues, operating results or financial condition will improve in future periods are subject to numerous risks. There are a number of important factors that could cause actual results to differ materially from the results anticipated by these forward-looking statements. These important factors include those that we discuss under the heading "Risk Factors" in this prospectus and in other sections of our Transition Report on Form 10-K for the period from July 1, 2017 through December 31, 2017, as filed with the SEC, as well as any update in our Quarterly Report(s) on Form 10-Q and Current Reports filed on Form 8-K from time to time with the SEC, that are incorporated by reference into this prospectus. You should read these factors and the other cautionary statements made in this prospectus and in the documents we incorporate by reference into this prospectus as being applicable to all related forward-looking statements wherever they appear in this prospectus or the documents we incorporate by reference into this prospectus. If one or more of these factors materialize, or if any underlying assumptions prove incorrect, our actual results, performance or achievements may vary materially from any future results, performance or achievements expressed or implied by these forward-looking statements. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise, except as required by law.

USE OF PROCEEDS

We estimate that the net proceeds of this offering will be approximately \$4.4 million from the sale of our securities in this offering, based on an assumed public offering price of \$1.07 per unit, the last reported sale price of our common stock on the Nasdaq Capital Market on May 11, 2018, and assuming the sale of 4,672,897 units and no sale of any pre-funded units in this offering after deducting the placement agent fees and estimated offering expenses payable by us. The public offering price per unit or pre-funded unit will be negotiated between us and the placement agent based on market conditions at the time of pricing, and may be at a discount to the current market price of our common stock. This amount excludes the proceeds, if any, from the exercise of common warrants in this offering. If all of the common warrants sold in this offering were to be exercised in cash at an exercise price of \$ per share, we would receive additional net proceeds of approximately \$ million. We cannot predict when or if these common warrants will be exercised. It is possible that these common warrants may expire and may never be

exercised.

We intend to use the net proceeds from this offering for general corporate purposes, including working capital. In the event that the gross proceeds of this offering (before placement agent fees and offering expenses) equal or exceed \$5.0 million, approximately \$657,000 of the net proceeds will be used to pay accrued but unpaid interest under our revolving line of credit with an affiliate of our largest stockholder. We have not otherwise determined the amounts we plan to spend on more specific areas or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds from this offering. Pending application of the net proceeds as described above, we intend to invest the net proceeds of this offering in short-term, investment-grade, interest-bearing securities.

A \$0.25 increase or decrease in the assumed public offering price of \$1.07 per unit, based on the last reported sale price for our common stock as reported on the Nasdaq Capital Market on May 11, 2018, would decrease or increase the number of units sold in this offering by approximately 885,018 units and 1,424,664 units, respectively, which would decrease or increase the amount of common stock issued by 885,018 shares and 1,424,664 shares, respectively, and the number of common warrants issued by 885,018 common warrants and 1,424,664 common warrants, respectively, assuming no sale of any pre-funded units.

Similarly, a one million unit or pre-funded unit increase or decrease in the number of shares offered by us, as set forth on the cover page of this prospectus, would increase or decrease the net proceeds to us by approximately \$984,000 assuming the assumed public offering price of \$1.07 per unit and no sale of any pre-funded units in this offering, and after deducting estimated placement agent fees and expenses and estimated offering expenses payable by us.

24

CAPITALIZATION

The following table sets forth our cash, cash equivalents and capitalization as of March 31, 2018:

on an actual basis; and

on an as adjusted basis to give effect to the assumed sale of our securities in this offering, based on an assumed public offering price of \$1.07 per unit, the last reported sale price of our common stock on the Nasdaq Capital Market on May 11, 2018, and assuming the sale of 4,672,897 units and no sale of any pre-funded units in this offering after deducting the placement agent fees and estimated offering expenses payable by us.

You should read this information in conjunction with our consolidated financial statements and notes thereto incorporated by reference into this prospectus.

| | Actual | As Adjusted |
|---|---------------|--------------|
| Cash and cash equivalents | \$2,872,000 | \$7,247,000 |
| Total liabilities Stockholders' equity: | \$19,061,000 | \$19,061,000 |
| Preferred stock, \$0.001 par value; 2,000,000 shares authorized, none outstanding | | |
| Common stock, \$0.001 par value; 350,000,000 shares authorized; 11,482,064 issued and outstanding on an actual basis, 16,154,961 issued and outstanding on an as adjusted basis | 11,000 | 16,000 |
| Paid in capital in excess of par | 222,721,000 | 227,091,000 |
| Accumulated deficit | (190,679,000) | . , , , |
| Accumulated other comprehensive loss | (36,000) | (36,000) |
| Total Cesca Therapeutics Inc. stockholders' equity | \$32,017,000 | \$36,392,000 |
| Noncontrolling interests | (897,000) | (897,000) |
| Total Stockholders' Equity | \$31,120,000 | \$35,495,000 |
| Total Liabilities and Stockholders' Equity | \$50,181,000 | \$54,556,000 |

The table above is based on 11,482,064 shares of our common stock outstanding as of March 31, 2018 and excludes:

76,239 shares of our common stock issuable upon the exercise of outstanding stock options under our 2006 Incentive Plan, having a weighted average exercise price of \$13.03 per share;

416 shares of our common stock issuable upon the vesting of restricted stock units under our 2006 Equity Incentive Plan;

12,396 shares of our common stock issuable upon the exercise of outstanding stock options under our 2012 Independent Director Plan, having a weighted average exercise price of \$21.87 per share;

1,117,775 shares of our common stock issuable upon the exercise of outstanding stock options under our 2016 Equity Incentive Plan, having a weighted average exercise price of \$3.01 per share;

4,435,012 shares of our common stock issuable upon the exercise of outstanding warrants, having a weighted average exercise price of \$9.13 per share; and

shares of common stock issuable upon exercise of warrants offered hereby.

25

DILUTION

If you purchase our securities in this offering, you will experience dilution in the net tangible book value per share of the common stock you purchase to the extent of the difference between the combined public offering price per share and related warrants and the as adjusted net tangible book value per share of our common stock immediately after this offering, assuming no value is attributed to the warrants.

Our historical net tangible book value is the amount of our total tangible assets less our related liabilities plus the amount allocated to our non-controlling interests. Our historical net tangible book value per share is our historical net tangible book value divided by the number of shares of common stock outstanding as of March 31, 2018. Our historical net tangible book value as of March 31, 2018, was approximately \$1,181,000, or \$0.10 per share of common stock.

As adjusted net tangible book value is our historical net tangible book value, after giving effect to the assumed sale by us of 4,672,897 units in this offering at an assumed public offering price of \$1.07 per unit, based on the last reported sale price of our common stock on the Nasdaq Capital Market on May 11, 2018, assuming no sale of any pre-funded units in this offering and after deducting estimated placement agent's fees and estimated offering expenses payable by us, our as adjusted net tangible book value as of March 31, 2018, would have been approximately \$5,556,000, or approximately \$0.34 per share, which excludes the common warrants to purchase shares of our common stock to be issued to investors in this offering. This represents an immediate increase in net tangible book value of approximately \$0.24 per share to existing stockholders and an immediate dilution of approximately \$0.73 per share to new investors purchasing shares of our common stock and warrants in this offering. The following table illustrates this per share dilution:

| Assumed combined public offering price per unit | | \$1.07 |
|--|--------|--------|
| Historical net tangible book value per share as of March 31, 2018 | \$0.10 | |
| Increase in historical net tangible book value per share attributable to this offering | 0.24 | |
| As adjusted net tangible book value per share as of March 31, 2018 after this offering | | 0.34 |
| Dilution in as adjusted net tangible book value per share to new investors | | \$0.73 |

This table does not take into account further dilution to new investors that could occur upon the exercise of the warrants offered hereby or outstanding options and warrants having a per share exercise price less than the public offering price per share in this offering. To the extent that outstanding options or warrants are exercised, or restricted stock units vest and settle, investors purchasing our common stock will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities could result in further dilution to our stockholders.

The number of shares of common stock outstanding after this offering as reflected in the table above, is based on the actual number of shares outstanding as of March 31, 2018, which was 11,482,064, and does not include, as of that date:

76,239 shares of our common stock issuable upon the exercise of outstanding stock options under our 2006 Incentive Plan, having a weighted average exercise price of \$13.03 per share;

416 shares of our common stock issuable upon the vesting of restricted stock units under our 2006 Equity Incentive Plan;

12,396 shares of our common stock issuable upon the exercise of outstanding stock options under our 2012 Independent Director Plan, having a weighted average exercise price of \$21.87 per share;

1,117,775 shares of our common stock issuable upon the exercise of outstanding stock options under our 2016 Equity Incentive Plan, having a weighted average exercise price of \$3.01 per share;

4,435,012 shares of our common stock issuable upon the exercise of outstanding warrants, having a weighted average exercise price of \$9.13 per share; and

shares of common stock issuable upon exercise of warrants offered hereby.

26

DESCRIPTION OF SECURITIES WE ARE OFFERING

We are offering (i) up to 4,672,897 units, each unit consisting of one share of our common stock and one common warrant to purchase one share of our common stock, and (ii) up to 4,672,897 pre-funded units, each pre-funded unit consisting of one pre-funded warrant to purchase one share of our common stock and one common warrant to purchase one share of our common stock. For each pre-funded unit we sell, the number of units we are offering will be decreased on a one-for-one basis. The share of common stock and accompanying common warrant included in each unit will be issued separately, and the pre-funded warrant to purchase one share of common stock and the accompanying common warrant included in each pre-funded unit will be issued separately. Units will not be issued or certificated. We are also registering the shares of common stock included in the units and the shares of common warrants included in the units and common warrants included in the units and the pre-funded units offered hereby.

Common Stock

Each holder of common stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, except matters that relate only to one or more of the series of preferred stock, and each holder does not have cumulative voting rights.

Subject to preferences that may be applicable to any then outstanding preferred stock, holders of common stock are entitled to receive ratably those dividends, if any, as may be declared from time to time by the board of directors out of legally available funds. In the event of our liquidation, dissolution or winding up, holders of common stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Holders of common stock have no preemptive or conversion rights or other subscription rights, and there are no redemption or sinking fund provisions applicable to the common stock. The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock which we may designate in the future.

Pre-Funded Warrants

The following summary of certain terms and provisions of pre-funded warrants included in the pre-funded units that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the pre-funded warrant, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of pre-funded warrant for a complete description of the terms and conditions of the pre-funded warrants.

Duration and Exercise Price

Each pre-funded warrant will have an initial exercise price per share equal to \$0.01. The pre-funded warrants will be immediately exercisable and may be exercised at any time until the pre-funded warrants are exercised in full. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The pre-funded warrants will be issued separately from the accompanying common warrants included in the pre-funded units, and may be transferred separately immediately thereafter.

Exercisability

The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the pre-funded warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's pre-funded warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. Purchasers of pre-funded units in this offering may also elect, prior to the issuance of the pre funded warrants, to have the initial exercise limitation set at 9.99% of our outstanding common stock.

27

Table of Contents

Cashless Exercise

If, at the time a holder exercises its pre-funded warrants, a registration statement registering the issuance of the shares of common stock underlying the pre-funded warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the pre-funded warrants.

Transferability

Subject to applicable laws, a pre-funded warrant may be transferred at the option of the holder upon surrender of the pre-funded warrant to us together with the appropriate instruments of transfer.

Fractional Shares

No fractional shares of common stock will be issued upon the exercise of the pre-funded warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Trading Market

There is no trading market available for the pre-funded warrants on any securities exchange or nationally recognized trading system.

Right as a Stockholder

Except as otherwise provided in the pre-funded warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the pre-funded warrants do not have the rights or privileges of holders of our common

stock, including any voting rights, until they exercise their pre-funded warrants.

Common Warrants

The following summary of certain terms and provisions of common warrants included in the units and the pre-funded units that are being offered hereby is not complete and is subject to, and qualified in its entirety by, the provisions of the common warrants, the form of which is filed as an exhibit to the registration statement of which this prospectus forms a part. Prospective investors should carefully review the terms and provisions of the form of common warrant for a complete description of the terms and conditions of the common warrants.

Duration and Exercise Price

Each common warrant included in the units and the pre-funded units offered hereby will have an initial exercise price per whole share equal to \$. The common warrants will be immediately exercisable and will expire on the fifth anniversary of the original issuance date. The exercise price and number of shares of common stock issuable upon exercise is subject to appropriate adjustment in the event of stock dividends, stock splits, reorganizations or similar events affecting our common stock and the exercise price. The common warrants will be issued separately from the common stock included in the units, or the pre-funded warrants included in the pre-funded units, as the case may be, and may be transferred separately immediately thereafter. A common warrant to purchase one share of our common stock will be included in each unit or pre-funded unit purchased in this offering.

28

Table of Contents

Exercisability

The common warrants will be exercisable, at the option of each holder, in whole or in part, by delivering to us a duly executed exercise notice accompanied by payment in full for the number of shares of our common stock purchased upon such exercise (except in the case of a cashless exercise as discussed below). A holder (together with its affiliates) may not exercise any portion of the common warrant to the extent that the holder would own more than 4.99% of the outstanding common stock immediately after exercise, except that upon at least 61 days' prior notice from the holder to us, the holder may increase the amount of ownership of outstanding stock after exercising the holder's common warrants up to 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the common warrants.

Cashless Exercise

If, at the time a holder exercises its common warrants, a registration statement registering the issuance of the shares of common stock underlying the common warrants under the Securities Act is not then effective or available for the issuance of such shares, then in lieu of making the cash payment otherwise contemplated to be made to us upon such exercise in payment of the aggregate exercise price, the holder may elect instead to receive upon such exercise (either in whole or in part) the net number of shares of common stock determined according to a formula set forth in the common warrants.

Fractional Shares

No fractional shares of common stock will be issued upon the exercise of the common warrants. Rather, the number of shares of common stock to be issued will, at our election, either be rounded up to the nearest whole number or we will pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the exercise price.

Transferability

Subject to applicable laws, a common warrant may be transferred at the option of the holder upon surrender of the common warrant to us together with the appropriate instruments of transfer.

Exchange Listing

We do not intend to list the common warrants on any securities exchange or nationally recognized trading system.

Right as a Stockholder

Except as otherwise provided in the common warrants or by virtue of such holder's ownership of shares of our common stock, the holders of the common warrants do not have the rights or privileges of holders of our common stock, including any voting rights, until they exercise their common warrants.

Fundamental Transactions

If we (i) effect any merger or consolidation with or into another person, (ii) effect any sale of all or substantially all of our assets in one or a series of related transactions, (iii) complete any tender offer or exchange offer pursuant to which holders of common stock are permitted to tender or exchange their shares for other securities, cash or property, (iv) we effect any reclassification of our common stock or any compulsory share exchange pursuant to which our common stock is effectively converted into or exchanged for other securities, cash or property, or (v) other similar transactions, then the warrant will become the right thereafter to receive, upon exercise, the number of shares of common stock of the successor or acquiring corporation (or the Company, if it is the survivor) and any additional consideration receivable upon such a fundamental transaction by holders of shares of common stock immediately prior to such transaction.

29

DIVIDEND POLICY

We currently intend to retain any future earnings to finance the growth and development of our business. Therefore, we do not anticipate declaring or paying any cash dividends in the foreseeable future. Any future determination as to the declaration and payment of dividends, if any, will be at the discretion of our board of directors and will depend on then existing conditions, including our financial condition, operating results, contractual restrictions, capital requirements, business prospects and other factors our board of directors may deem relevant.

PLAN OF DISTRIBUTION

H.C. Wainwright & Co., LLC (the "Placement Agent" or "Wainwright") has agreed to act as our exclusive placement agent in connection with the offering pursuant to the terms and conditions of an engagement agreement. The Placement Agent is not purchasing or selling any securities offered by this prospectus, and is not required to arrange for the purchaser or sale of any specific number or dollar amount of securities, but will use its reasonable best efforts to arrange for the sale of the securities offered by this prospectus. We will enter into a securities purchase agreement directly with certain institutional investors. The Placement Agent may retain one or more brokers, dealers or sub-agents in connection with the offering.

We will deliver the securities being issued to the investors upon receipt of investor funds for the purchase of the securities offered pursuant to this prospectus. We expect to deliver the securities being offered pursuant to this prospectus on or about, 2018.

Fees and Expenses

Per PreUnit Funded Unit

Placement Agent Fees Total

We have agreed to pay to the Placement Agent a placement agent fee equal to eight percent (8%) of the aggregate gross proceeds to us from the sale of the securities in the offering. In addition, we have agreed to reimburse the placement agent for offering expenses in the non-accountable sum of \$25,000 and for legal fees and expenses in an

amount up to \$75,000, subject to compliance with FINRA Rule 5110(f)(2)(D)(i).

30

Lock-Up Agreements

We have agreed, subject to certain exceptions, not to offer, issue, sell, contract to sell, encumber, grant any option for the sale of or otherwise dispose of any shares of our common stock or other securities convertible into or exercisable or exchangeable for shares of our common stock for a period of 90 days after the effective date of the registration statement of which this prospectus is a part without the prior written consent of Wainwright.

In addition, each of our officers, directors and certain existing shareholders have agreed not to offer, pledge, sell, contract to sell, grant any option or contract to purchase, purchase any option or contract to sell, or otherwise dispose of, directly or indirectly, any shares of common stock or any securities convertible into, exercisable for, or exchangeable for shares of common stock, or enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock for a period of 90 days after the effective date of the registration statement of which this prospectus is a part without the prior written consent of Wainwright.

Wainwright may in its sole discretion and at any time without notice release some or all of the shares subject to lock-up agreements prior to the expiration of the lock-up period. When determining whether or not to release shares from the lock-up agreements, the Placement Agent will consider, among other factors, the security holder's reasons for requesting the release, the number of shares for which the release is being requested and market conditions at the time.

Indemnification

The engagement agreement provides that we will indemnify the Placement Agent against specified liabilities, including liabilities under the Securities Act. The Placement Agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the Placement Agent would be required to comply with the Securities Act and the Exchange Act, including without limitation, Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares of common stock, overallotment purchase rights and warrants by the Placement Agent acting as principal. Under these rules and regulations, the Placement Agent:

may not engage in any stabilization activity in connection with our shares; and

Table of Contents 76

•

may not bid for or purchase any of our shares or attempt to induce any person to purchase any of our shares, other than as permitted under the Exchange Act, until it has completed its participation in the distribution of shares in this offering.

Other Relationships

From time to time, the Placement Agent and its affiliates have provided, and may in the future provide, various investment banking, financial advisory and other services to us and our affiliates for which services they have received, and may in the future receive, customary fees. In the course of their businesses, the Placement Agent and its affiliates may actively trade our securities or loans for their own account or for the accounts of customers, and, accordingly, the Placement Agent and its affiliates may at any time hold long or short positions in such securities or loans. In March 2018, the Placement Agent acted as the exclusive placement agent in connection with a registered direct offering of an aggregate of 609,636 shares of our common stock and in connection with a concurrent private placement with respect to the issuance of warrants to purchase, in the aggregate, up to 304,818 shares of our common stock. Except for services provided in connection with this offering, and except as set forth in this paragraph, the Placement Agent has not provided any investment banking or other financial services during the 180-day period preceding the date of this prospectus.

Listing of Common Stock

Our common stock is listed on the Nasdaq Capital Market under the symbol "KOOL".

31

LEGAL MATTERS

Certain legal matters with respect to the securities offered hereby will be passed upon by Foley & Lardner LLP, Tampa, Florida. Certain other legal matters will be passed upon for the placement agent by Sheppard Mullin Richter & Hampton LLP, New York, New York, in connection with this offering.

EXPERTS

The consolidated financial statements of the Company as of and for the six months ended December 31, 2017 and as of and for the years ended June 30, 2017 and 2016 appearing in our Transition Report on Form 10-K for the period from July 1, 2017 to December 31, 2017, have been audited by Marcum LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The consolidated financial statements of SynGen Inc. as of and for the years ended December 31, 2016 and 2015, appearing in our Current Report on Form 8-K/A dated September 22, 2017, have been audited by Moss Adams LLP, independent auditors, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

32

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of common stock and warrants to purchase shares of common stock being offered by this prospectus. This prospectus does not contain all of the information in the registration statement of which this prospectus is a part and the exhibits to such registration statement. For further information with respect to us and the common stock and warrants offered by this prospectus, we refer you to the registration statement of which this prospectus is a part and the exhibits to such registration statement. Statements contained in this prospectus as to the contents of any contract or any other document are not necessarily complete, and in each instance, we refer you to the copy of the contract or other document incorporated by reference or filed as an exhibit to the registration statement of which this prospectus is a part. Each of these statements is qualified in all respects by this reference.

You may read and copy the registration statement of which this prospectus is a part, as well as our reports, proxy statements and other information, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the Public Reference Room. The SEC maintains an Internet site that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC, including Cesca Therapeutics, Inc. The SEC's Internet site can be found at http://www.sec.gov. You may also request a copy of these filings, at no cost, by writing us at 2711 Citrus Road, Rancho Cordova, CA 95742 or telephoning us at (916) 858-5100.

We are subject to the information and reporting requirements of the Exchange Act, and, in accordance with this law, file periodic reports, proxy statements and other information with the SEC. These periodic reports, proxy statements and other information are available for inspection and copying at the SEC's public reference facilities and the website of the SEC referred to above. We also maintain a website at www.cescatherapeutics.com. You may access these materials free of charge as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC. Information contained on our website is not a part of this prospectus and the inclusion of our website address in this prospectus is an inactive textual reference only.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" the information we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below:

Our Annual Report on Form 10-K for the fiscal year ended June 30, 2017, filed with the SEC on September 22, 2017 and as amended on October 20, 2017;

Our Transition Report on Form 10-K for the transition period from July 1, 2017 to December 31, 2017, filed with the SEC on March 22, 2018;

Our Definitive Proxy Statement filed with the SEC on April 30, 2018;

Our Quarterly Report on Form 10-Q for the quarter ended September 30, 2017, filed with the SEC on November 14, 2017, and our Quarterly Report on Form 10-Q for the quarter ended March 31, 2018, filed with the SEC on May 14, 2018;

Our Current Reports on Form 8-K filed with the SEC on July 11, 2017, and as amended on September 22, 2017, August 4, 2017, August 25, 2017, September 19, 2017, and as amended on September 22, 2017, September 19, 2017, November 15, 2017, November 29, 2017, December 1, 2017, January 5, 2018, March 16, 2018, March 28, 2018; April 18, 2018; and May 7, 2018; and

The description of our common stock set forth in Item 8.01 of our Current Report on Form 8-K filed on May 18, 2017 pursuant to Section 12(b) of the Exchange Act, including any amendment or report filed for the purpose of updating such description; and

All documents filed by us with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after the date of this prospectus and before we terminate the offering under this prospectus.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus and will become a part of this prospectus from the respective dates that such documents are filed with the SEC. Any statement contained herein or in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes hereof or of the related prospectus supplement to the extent that a statement contained herein or in any other subsequently filed document which is also incorporated or deemed to be incorporated herein modifies or supersedes such 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 will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, upon his or her written or oral request, a copy of any or all documents referred to above which have been or may be incorporated by reference into this prospectus but not delivered with this prospectus excluding exhibits to those documents unless they are specifically incorporated by reference into those documents. You can request those documents from us, at no cost, by writing or telephoning us at: Cesca Therapeutics Inc., (916) 858-5100, 2711 Citrus Road, Rancho Cordova, CA 95742, Attention: Corporate Secretary.

The most recent information that we file with the SEC automatically updates and supersedes older information. The information contained in any such filing will be deemed to be a part of this prospectus, commencing on the date on which the filing is made. Information furnished under Items 2.02 or 7.01 (or corresponding information furnished under Item 9.01 or included as an exhibit) in any past or future Current Report on Form 8-K that we file with the SEC, unless we specified in such report, is not incorporated by reference in this prospectus.

33

| Up to 4,672,897 Units (each Unit contains One Share of Common Stock and One |
|--|
| Common Warrant to Purchase One Share of Common Stock) |
| Up to 4,672,897 Pre-funded Units (each Pre-funded Unit contains One Pre-funded Warrant to Purchase |
| One Share of Common Stock and One Common Warrant to Purchase One Share of Common Stock) |
| Shares of Common Stock Underlying the Pre-funded Warrants and |
| Shares of Common Stock Underlying the Common Warrants |
| |
| PROSPECTUS |
| H.C. Wainwright & Co. |
| , 2018 |

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other Expenses of Issuance and Distribution.

The following table indicates the expenses to be incurred in connection with the offering described in this registration statement, other than underwriting discounts and commissions, all of which will be paid by us. All amounts are estimated except the Securities and Exchange Commission registration fee and the Financial Industry Regulatory Authority, Inc., or FINRA, filing fee.

| | Amount |
|-----------------------------------|-----------|
| | to be |
| | Paid |
| SEC registration fee | \$2,490 |
| FINRA filing fee | \$3,500 |
| Accounting fees and expenses | \$28,000 |
| Legal fees and expenses | \$159,000 |
| Transfer agent and registrar fees | \$6,000 |
| Miscellaneous fees and expenses | \$26,010 |
| Total | \$225,000 |

Item 14. Indemnification of Directors and Officers.

Section 102(b)(7) of the Delaware General Corporation Law (the "Delaware Law") enables a corporation, in its original certificate of incorporation or an amendment thereto, to eliminate or limit the personal liability of a director for monetary damages for breach of the director's fiduciary duty, except (i) for any breach of the director's duty of loyalty to the corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) pursuant to Section 174 of the Delaware Law (providing for liability of directors for unlawful payment of dividends or unlawful stock purchases or redemptions), or (iv) for any transaction from which the director derived an improper personal benefit. The Company's Sixth Amended and Restated Certificate of Incorporation, as amended (Certificate of Incorporation), contains such a provision.

In addition, Section 145 of the Delaware Law provides that a corporation may indemnify any persons, including officers and directors, who are, or are threatened to be made, party to any threatened, pending or completed legal

action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation), by reason of the fact that such person is or was an officer, director, employee or agent of the corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such officer, director, employee or agent acted in good faith and in a manner the person reasonably believed to be in or not opposed to the corporation's best interests and, with respect to criminal proceedings, had no reasonable cause to believe that the person's conduct was unlawful. A Delaware corporation may indemnify officers or directors in an action by or in the right of the corporation under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him or her against expenses (including attorneys' fees) that he or she actually and reasonably incurred. The Company's Certificate of Incorporation and Restated Bylaws provide for indemnification of directors and officers to the fullest extent permitted by the Delaware Law.

Item 15. Recent Sales of Unregistered Securities.

In the three years preceding the filing of this Registration Statement, we issued the securities described below that were not registered under the Securities Act.

On August 31, 2015, we entered into a securities purchase agreement with an institutional accredited investor. Pursuant to the terms of the securities purchase agreement, we sold the investor Senior Secured Convertible Debentures in principal amount of \$15,000,000 ("Debentures"), Series A warrants ("Series A Warrants") to purchase up to 1,102,942 shares of our common stock ("Series A Warrant Shares") at an exercise price equal to \$13.60 per Series A Warrants Share and Series B warrants ("Series B Warrants" and together with the Series A Warrants") to purchase up to 606,618 shares of our common stock ("Series B Warrant Shares" and together with the Series A Warrant Shares, "Warrant Shares") at an exercise price equal to \$13.60 per Series B Warrant Share (the "Financing"). In connection with the Financing, we paid Maxim Group LLC, the placement agent, an aggregate cash fee equal to \$440,000 in connection with the initial closing as well as the reimbursement of certain expenses. The issuance of Debentures and Warrants were completed in accordance with the exemption provided by Rule 506 of Regulation D of the Securities Act and/or Section 4(a)(2) of the Securities Act.

II-1

Table of Contents

On February 2, 2016, we entered into a Purchase Agreement (the "Purchase Agreement") with Boyalife Investment Inc. ("Boyalife USA") and Boyalife (Hong Kong) Limited ("Boyalife HK" and, together with Boyalife USA, the "Investors"), pursuant to which we issued to Boyalife USA a secured three-year convertible debenture with an aggregate principal face amount of \$12.5 million (the "2016 Debenture"). Pursuant to the terms of the 2016 Debenture, all outstanding principal and accrued and unpaid interest up to and including the maturity date is convertible into shares of our common stock at a per share price of \$3.40 (the "Conversion Price") at our option at any time prior to maturity, provided that (i) the 20-day simple moving average price of our common stock on the date of conversion is at least 125% of the Conversion Price and (ii) the volume weighted average trading price of our common stock has been greater than the Conversion Price for ten consecutive trading days. On August 22, 2016, we notified Boyalife USA in writing that we elected to convert all outstanding principal and interest accrued and otherwise payable under the 2016 Debenture, which included the conversion of \$12,500,000 of principal and \$8,250,000 of interest up to and including the maturity date of the 2016 Debentures, effective as of August 22, 2016 (the "Conversion"). Upon the Conversion of the 2016 Debenture, we issued an aggregate of 6,102,941 shares of common stock to Boyalife USA. The issuances have been determined to be exempt from registration under the Securities Act in reliance on Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder, as transactions by an issuer not involving a public offering.

On March 6, 2017, we entered into a Revolving Credit Agreement (the "Credit Agreement") with Boyalife Investment Fund II, Inc., an Illinois corporation. On April 16, 2018, we entered into the Amended Credit Agreement with Boyalife Asset Holding II, Inc. ("Lender"), the predecessor by merger to the prior lender. The Amended Credit Agreement grants the Company the right to borrow up to \$10.0 million (the "Note") from Lender on an unsecured basis at any time prior to the Maturity Date. As part of the amendments in April 2018, the Lender was granted the right to convert, at any time, outstanding principal and accrued but unpaid interest into shares of our common stock at a conversion price equal to \$1.61 per share, subject to customary adjustments for stock splits, reverse stock splits, and the like (the "Fixed Conversion Price"). Notwithstanding the foregoing, if the debt is converted after the Maturity Date, the conversion price will be the lower of the Fixed Conversion Price or an amount equal to 90% of the average volume-weighted average price of our common stock during the 10 trading days immediately prior to the Maturity Date. Prior to the April 2018 amendment, the debt was convertible by the Lender only upon maturity of the obligation. The number of shares issuable upon such conversion may not exceed 19.99% of our number of outstanding shares of common stock unless we obtain stockholder approval for such issuance in the manner required by the Marketplace Rules of the Nasdaq Stock Market, Inc. The offer and sale of the Note was made (and the offer and sale of the shares common stock issuable upon conversion of the Note were and will be made) pursuant to the exemption from registration provided by Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.

On March 28, 2018, we completed a registered direct offering of 609,636 shares of our common stock at a purchase price of \$2.27 per share and a simultaneous private placement of unregistered warrants to purchase up to 304,818 shares of common stock. The warrants have an exercise price of \$2.68 per share and are exercisable commencing six months following the issuance date and will expire 5.5 years from the issuance date. The warrants were offered in a private placement under Section 4(a)(2) of the Securities Act and Rule 506 of Regulation D promulgated thereunder.

Item 16. Exhibits and Financial Statement Schedules.

| (0) | Exhibits | |
|-----|-----------|--|
| (a) | r.xviinis | |

The exhibits to the registration statement are listed in the Exhibit Index attached hereto and are incorporated by reference herein.

(b) Financial Statement Schedules.

All other schedules are omitted because they are not required, are not applicable, or the information is included in the financial statements or the related notes to financial statements thereto.

II-2

Table of Contents

| Item | 17. | Undertakings. |
|--------|-------------|-----------------|
| ILCIII | 1 /• | Chuci taixings. |

of the registration statement.

| 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 (the "Act"); |
| (ii) To reflect in the prospectus any facts or events arising after the effective date of this registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and |
| (iii) To include any material information with respect to the plan of distribution not previously disclosed in this registration statement or any material change to such information in this registration statement. |
| <i>Provided</i> , <i>however</i> , that Paragraphs (1)(i), (1)(ii) and (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 Commission by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part |

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

| | To remove from registration by means of a post-effective amendment any of the securities emain unsold at the termination of the offering. |
|---|--|
| (4) T purchaser: | That, for the purpose of determining liability under the Securities Act of 1933 to any |
| part of a registration state than prospectuses filed in included in the registratio statement made in a regis document incorporated of the registration statement modify any statement that | t to Rule 430C (§230.430C of this chapter), each prospectus filed pursuant to Rule 424(b) as ement relating to an offering, other than registration statements relying on Rule 430B or other reliance on Rule 430A (§230.430A of this chapter), shall be deemed to be part of and on statement as of the date it is first used after effectiveness. Provided, however, that no stration statement or prospectus that is part of the registration statement or made in a or deemed incorporated by reference into the registration statement or prospectus that is part of twill, as to a purchaser with a time of contract of sale prior to such first use, supersede or at was made in the registration statement or prospectus that was part of the registration when such document immediately prior to such date of first use. |
| to any purchaser in the in offering of securities of the underwriting method use by means of any of the for | That, for the purpose of determining liability of the registrant under the Securities Act of 1933 nitial distribution of the securities, the undersigned registrant undertakes that in a primary he undersigned registrant pursuant to this registration statement, regardless of the d to sell the securities to the purchaser, if the securities are offered or sold to such purchaser ollowing communications, the undersigned registrant will be a seller to the purchaser and will sell such securities to such purchaser: |
| | Any preliminary prospectus or prospectus of the undersigned registrant relating to the led pursuant to Rule 424 (§230.424 of this chapter); |
| | ny free writing prospectus relating to the offering prepared by or on behalf of the undersigned rred to by the undersigned registrant; |
| II-3 | |

Table of Contents

- (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.

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

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.

The undersigned registrant hereby undertakes that:

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

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

EXHIBIT INDEX

| Exhibit No. | Document Description |
|----------------|--|
| | Plan of Merger Agreement and Reorganization Agreement between ThermoGenesis Corp. and |
| 2.1 | TotipotentRX, dated July 15, 2013 (Incorporated by reference to Exhibit 2.1 to Form 8-K filed with the SEC |
| | <u>July 16, 2013.)</u> |
| 3.1 | Sixth Amended and Restated Certificate of Incorporation, as amended (Incorporated by reference to Exhibit 3.1 of Registration Statement on Form S-8 filed with the SEC on May 18, 2017.) |
| | Restated Bylaws of Cesca Therapeutics Inc. (Incorporated by reference to Exhibit 99.1 to Form 8-K filed |
| 3.2 | with the SEC on October 30, 2014.) |
| 3.3 | Certificate of Merger (Incorporated by reference to Exhibit 3.4 to Form 8-K filed with the SEC on February 21, 2014.) |
| 5.1 | Opinion of Foley & Lardner LLP (Incorporated by reference to Exhibit 5.1 to Form S-1 filed with the SEC on May 14, 2018.) |
| 10.1 | Amended and Restated 2006 Equity Incentive Plan (Incorporated by reference to Exhibit 10.6.1 to Form 8-K filed with the SEC on May 1, 2014.) |
| | Product Purchase and International Distribution Agreement between ThermoGenesis Corp. and Golden |
| 10.2+ | Meditech Holdings Limited (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on |
| | August 24, 2012 and amended October 24, 2012.) |
| 10.3 | 2012 Independent Director Plan (Incorporated by reference to Exhibit A of the Company's Definitive Proxy |
| 10.0 | Statement filed with the SEC on October 23, 2012.) |
| 10.4+ | Sales and Purchase Agreement between ThermoGenesis Corp. and CBR Systems, Inc. dated December 31, 2013 (Incorporated by reference to Exhibit 10.18 to Form 8-K filed with the SEC on January 7, 2014.) |
| | Employment Agreement with Robin C. Stracey (Incorporated by reference to Exhibit 10.19 to Form 8-K |
| 10.5 | filed with the SEC on June 15, 2015.) |
| | Form of Series A Warrant (Incorporated by reference to Exhibit 10.3 to Form 8-K filed with the SEC on |
| 10.6 | September 1, 2015.) |
| 10 (1 | Form of Series A Warrant Amendment (Incorporated by reference to Exhibit 10.7 to Form 8-K filed with the |
| 10.6.1 | SEC on February 3, 2016.) |
| 10.7 | General Release and Waiver between the Company and Kenneth L. Harris (Incorporated by reference to |
| 10.7 | Exhibit 10.1 to Form 8-K filed with the SEC on September 30, 2015.) |
| | Sixth Amended and Restated Technology License and Escrow Agreement between the Company. |
| 10.8 | ThermoGenesis Corp. and CBR Systems, effective May 15, 2017 (Incorporated by reference to Exhibit 10.1 |
| | to Form 8-K filed with the SEC on May 31, 2017.) |
| 10.9 | Employment Agreement with Michael Bruch (Incorporated by reference to Exhibit 10.2 to Form 8-K filed |
| | with the SEC on October 28, 2015.) |
| 10.10 | Purchase Agreement between the Company and Boyalife Investment Inc. and Boyalife (Hong Kong) |
| | <u>Limited (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on February 3, 2016.)</u> Form of Debenture between the Company and Boyalife Investment Inc. and Boyalife (Hong Kong) Limited |
| 10.11 | (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on February 3, 2016.) |
| 10.12 | incorporated by reference to Damoit 10.2 to Form 5-14 fried with the SDC on February 3, 2010.) |

| | Form of Warrant (Incorporated by reference to Exhibit 10.3 to Form 8-K filed with the SEC on February 3, |
|-------|--|
| | <u>2016.)</u> |
| | First Amended and Restated Nomination and Voting Agreement, dated April 16, 2018, between Cesca |
| 10.13 | Therapeutics Inc, and Boyalife (Hong Kong) Limited. (Incorporated by reference to Exhibit 10.3 to Form |
| | 8-K filed with the SEC on April 18, 2018.) |
| 10.14 | Form of Security Agreement (Incorporated by reference to Exhibit 10.5 to Form 8-K filed with the SEC on |
| 10.14 | <u>February 3, 2016.</u>) |
| | Form of Securities Purchase Agreement between Cesca Therapeutics Inc. and certain institutional accredited |
| 10.15 | investors, dated August 3, 2016 (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC |
| | on August 4, 2016.) |
| | Form of Placement Agency Agreement between Cesca Therapeutics Inc. and Maxim Group LLC, dated |
| 10.16 | August 3, 2016 (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on August 4, |
| | <u>2016.)</u> |
| | General Release and Waiver dated November 7, 2016 by and between Cesca Therapeutics, Inc. and Robin |
| 10.17 | Stracey (Incorporated by reference to Exhibit 10.2 to Form 8-K/A filed with the SEC on November 17. |
| | <u>2016.)</u> |
| | Executive Employment Agreement, dated November 13, 2017, between Cesca Therapeutics Inc. and Dr. |
| 10.18 | Xiaochun (Chris) Xu. (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on |
| | November 15, 2017.) |
| | |

II-5

Table of Contents

- 10.19 Form of Indemnification Agreement (Incorporated by reference to Exhibit 10.1 to Form 8-K/A filed with the SEC on November 17, 2016.)
- 10.20 Cesca Therapeutics Inc. 2016 Equity Incentive Plan, as amended (Incorporated by reference to Exhibit 10.1 to Registration Statement on Form S-8 filed with the SEC on May 18, 2017.)
- 10.20.1 Amendment to the Cesca Therapeutics Inc. 2016 Equity Incentive Plan, effective November 13, 2017. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on November 15, 2017.)
- 10.21 General Release and Waiver between Mr. Michael Bruch and Cesca Therapeutics Inc., effective February 28, 2017 (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on March 2, 2017.)
- 10.22 Employment Agreement between Ms. Vivian Liu and Cesca Therapeutics Inc., effective February 24, 2017 (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on March 2, 2017.)

 Amendment No. 1, dated November 13, 2017, to Executive Employment Agreement between Vivian Liu and
- 10.22.1 Cesca Therapeutics Inc. (Incorporated by reference to Exhibit 10.3 to Form 8-K filed with the SEC on November 15, 2017.)
- First Amended and Restated Revolving Credit Agreement, dated April 16, 2018, between Cesca Therapeutics
- 10.23 <u>Inc. and Boyalife Asset Holding II, Inc. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on April 18, 2018.)</u>
 Second Amended and Restated Convertible Promissory Note, dated April 16, 2018, issued by Cesca
- 10.24 Therapeutics Inc. to Boyalife Asset Holding II, Inc. (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on April 18, 2018.)
- Asset Acquisition Agreement, dated July 7, 2017, between ThermoGenesis Corp. and SynGen Inc.
 (Incorporated by reference to Exhibit 2.1 to Form 8-K filed with the SEC on July 11, 2017.)
 Voting Agreement, dated July 7, 2017, among the Company, ThermoGenesis Corp., Bay City Capital Fund V.
- 10.26 L.P. and Bay City Capital Fund Co-Investment Fund, L.P. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on July 11, 2017.)

 Right of First Refusal and Co-Sale Agreement, dated July 7, 2017, among the Company, ThermoGenesis
- 10.27 Corp., Bay City Capital Fund V. L.P. and Bay City Capital Fund Co-Investment Fund, L.P. (Incorporated by reference to Exhibit 10.3 to Form 8-K filed with the SEC on July 11, 2017.)
- 10.28 Amended and Restated Certificate of Incorporation of ThermoGenesis Corp. (Incorporated by reference to Exhibit 10.4 to Form 8-K filed with the SEC on July 11, 2017.)
- 10.29+ International Distributor Agreement, dated August 21, 2017, between ThermoGenesis Corp. and Boyalife W.S.N. (Incorporated by reference to Exhibit 10.29 to Form 10-K filed with the SEC on September 22, 2017.)
- 10.30 Form of Stock Option Agreement. (Incorporated by reference to Exhibit 10.4 to Form 8-K filed with the SEC on November 15, 2017.)
- 10.31 ThermoGenesis Corp. 2017 Equity Incentive Plan. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on January 5, 2018.)
- 10.32 Form of Stock Option Agreement under ThermoGenesis Corp. 2017 Equity Incentive Plan. (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on January 5, 2018.)
- 10.33+ Exclusive License Agreement, dated March 12, 2018, between ThermoGenesis Corp. and IncoCell Tianjin Ltd. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on March 16, 2018)
- 10.34 Form of Common Stock Purchase Warrant. (Incorporated by reference to Exhibit 4.1 to Form 8-K filed with the SEC on March 28, 2018).
- Securities Purchase Agreement, dated as of March 26, 2018, between Cesca Therapeutics Inc. and the Purchasers identified on the signature pages thereto. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on March 28, 2018).

10.36

Amendment No. 1, dated May 7, 2018, to First Amended and Restated Revolving Credit Agreement between Cesca Therapeutics Inc. and Boyalife Asset Holding II, Inc. (Incorporated by reference to Exhibit 10.1 to Form 8-K filed with the SEC on May 7, 2018.)

- 10.37 Form of Common Warrant (Incorporated by reference to Exhibit 10.37 to Form S-1 filed with the SEC on May 14, 2018).
- 10.38 Form of Pre-Funded Warrant (Incorporated by reference to Exhibit 10.38 to Form S-1 filed with the SEC on May 14, 2018).
- 10.39 Form of Securities Purchase Agreement (Incorporated by reference to Exhibit 10.39 to Form S-1 filed with the SEC on May 14, 2018).
 - Engagement Letter, dated as of March 22, 2018, by and between Cesca Therapeutics Inc. and H.C.
- 10.40 Wainwright & Co., LLC. (Incorporated by reference to Exhibit 10.2 to Form 8-K filed with the SEC on March 28, 2018).
- 21.1 Subsidiaries (Incorporated by reference to Exhibit 21.1 to Form S-1 filed with the SEC on April 6, 2018)
- 23.1 Consent of Marcum LLP, independent registered public accounting firm (filed herewith)
- 23.2 Consent of Moss Adams LLP, independent auditors (filed herewith)
- 23.3 Consent of Foley & Lardner LLP (included in Exhibit 5.1)
- 24.1 Power of Attorney (Incorporated by reference to Exhibit 24.1 to Form S-1 filed with the SEC on April 6, 2018)

II-6

The SEC has granted confidential treatment with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement on Amendment No. 3 to Form S-1 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Rancho Cordova, State of California, on this 16th day of May, 2018.

Cesca Therapeutics Inc.

By:/s/ Xiaochun Xu Xiaochun "Chris" Xu, Chief Executive Officer

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

| Signature | Title | Date |
|---------------------------------------|---|--------------|
| /s/ Xiaochun Xu Xiaochun "Chris" X | Chief Executive Officer and Chairman of the Board KuPrincipal Executive Officer) | May 16, 2018 |
| /s/ Jeff Cauble Jeff Cauble | Principal Financial and Accounting Officer (Principal Financial Officer and Principal Accounting Officer) | May 16, 2018 |
| /s/ Vivian Liu Vivian Liu | Chief Operating Officer and Director | May 16, 2018 |
| * Russell Medford | Director | May 16, 2018 |
| * Joseph Thomis | Director | May 16, 2018 |
| * Mark Westgate | Director | May 16, 2018 |
| * James Xu | Director | May 16, 2018 |

^{*}By: /s/ Xiaochun Xu

Xiaochun "Chris" Xu, as attorney-in-fact

II-7