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

FORM 8-K

CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934

Date of Report: March 11, 2014
Commission file number 001-11602

APPLIED NANOTECH HOLDINGS, INC.
(Exact name of registrant as specified in its charter)

Texas
(State or other jurisdiction
of incorporation or organization)

76-0273345
(I.R.S. Employer
Identification No.)

3006 Longhorn Boulevard, Suite 107, Austin, Texas 78758
(Address of principal executive offices) (Zip Code)

(512) 339-5020

(Registrant's telephone number, including area code)

Former name or former address, if changed since last report: N/A

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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ITEM 1.01 ENTRY INTO A MATERIAL DEFINITIVE AGREEMENT.

Merger Agreement

On March 10, 2014, Applied Nanotech Holdings, Inc., a Texas corporation (the “Company”), together with its wholly owned direct subsidiaries PEN INC, a Delaware corporation (“PEN”) and NanoMerger Sub Inc., a Delaware corporation (“Merger Sub”) entered into an Agreement and Plan of Merger and Exchange (the “Merger Agreement”) with NanoHolding Inc. (“Nano”) and Carl Zeiss, Inc. (“Zeiss”), pursuant to which, subject to the terms and conditions of the Merger Agreement, the Company will merge with and into PEN and Nano will merge with and into Merger Sub and become a wholly-owned subsidiary of PEN (the “Merger”), immediately thereafter Zeiss will exchange its interest in Nano’s subsidiary for stock in PEN. The Company provides nanotechnology research and development services and Nano’s subsidiary Nanofilm Ltd. (“Nanofilm”) is a private company with a leading market position for specialty optical coatings, cleaners and nano-composite products. Upon completion of the Merger, current stockholders of the Company and holders of certain debt convertible into the Company’s common stock are expected to receive approximately 38% of PEN’s outstanding common stock and stockholders of Nano and Zeiss are expected to receive approximately 62% of PEN’s outstanding common stock as discussed below.

At the effective time of the Merger, each share of the Company’s common stock issued and outstanding immediately prior to such time (other than shares owned by shareholders who have properly exercised and perfected their rights of dissent and appraisal under Texas law) will be automatically converted into the right to receive one share of PEN’s Class A common stock. This conversion ratio is fixed and will not be adjusted for changes in the market value of Company common stock or Nano.

At the effective time of the Merger, each share of Nano stock issued and outstanding immediately prior to the effective time of the Merger (other than stock of holders who have properly exercised and perfected their rights of dissent and appraisal under Delaware law) will be converted into the right to receive PEN common stock. Zeiss will exchange its ownership in Nanofilm for PEN stock. Together the stockholders of Nano (other than dissenting holders) and Zeiss will own approximately 62% of PEN common stock. The exchange ratio depends on, among other things, the number of Company shares outstanding at the time of the Merger and exchange, but it will not be adjusted for changes in the market value of Company common stock, Nano common stock or the Zeiss interest in Nanofilm.

Under the Merger Agreement, shares of Nano’s Class A common stock will be exchanged for shares of PEN’s Class A common stock that entitle the holder to one vote per share. Shares of Nano’s Class B common stock will be exchanged for shares of PEN’s Class B common stock that entitle the holder to 100 votes per share. Scott Rickert, Ph.D. who will become the chief executive officer of PEN upon completion of the Merger, will own or control all of the shares of the Class B common stock. If Class B common stock is no longer controlled by the Rickert family, it automatically converts to Class A common stock. Each share of Class B common stock is also convertible into one share of Class A common stock at any time at the option of the holder. The Zeiss Class Z membership interest in Nanofilm will be exchanged for shares of PEN’s Class Z common stock. The Class Z common stock holders will have no voting rights, but Zeiss, as the holder of the Class Z common stock will be entitled to nominate one person to the PEN board of directors. Class Z common stock has antidilutive rights that permit its holders to maintain their economic ownership percentage. If Class Z common stock is transferred out of the Zeiss control group, it automatically converts into Class A common stock and, if Zeiss sells more than half of the stock it acquires in the exchange, all the Class Z common stock converts into Class A common stock. In addition, each share of Class Z common stock is convertible into one share of Class A common stock at any time at the option of the holder.

Fully diluted Company common stock will be calculated immediately before the effective time of the merger of Nano with MergerSub and will include the sum of: the number of the Company’s shares outstanding, plus the total number of Company’s shares reserved for issuance upon the exercise of any convertible instrument or right to receive the Company’s common stock other than the options to purchase 5,908,000 shares which shall be excluded, but including any potential warrant exercise, plus the number of shares required for conversion of the Company’s debt pursuant to the Convertible Debt Agreement Amendments described below, plus the number of the Company’s shares of common stock issued or reserved pursuant to amended compensation agreements with its President and Chief Financial Officer, plus the number of shares of the Company’s common stock issued or reserved for issuance pursuant to the Voting and Conversion Agreement described in the next paragraph and for the “merger fee” payable to the Special Committee of the Company’s board of directors.

To induce Nano to enter into the Merger Agreement the Company has also entered into (i) a Voting and Conversion Agreement with each of the Directors of the Company other than Mr. Li the representative of Sichuan Anxian Yinhee Chemical and Construction Company. It is expected that Mr. Li and the company he represents will also execute the Voting and Conversion Agreement. This agreement requires each of the parties to vote in favor of the approval of the Merger Agreement and conversion of accrued director's fees owed to the non-employee Directors of the Company into shares of PEN Class A common stock at the time of the Merger; and (ii) amended compensation arrangements with Zvi Yaniv, Ph. D., the Company's President and Douglas Baker, its Chief Financial Officer, described under item 5.02 below

Prior to the consummation of the Merger, the Company intends to enter into Convertible Debt Agreement Amendments with all holders of the Company's convertible debt that will not be paid in full prior to the Merger. The proposed amendment will require these debt holders to, among other things, convert the Company debt they hold at the time of the Merger into shares of PEN's Class A Common Stock. The shares issued upon conversion of this debt will count in the Fully Diluted shares of PEN common stock in calculating the shares to be received by stockholders of Nano and by Zeiss. Prior to the Merger, the Company's directors who are appointed to the board of directors of PEN will each enter into a Lock-Up Agreement restricting the sale of the PEN common stock they own for a period of six months.

The Merger Agreement provides that, at the effective time of the Merger, Dr. Rickert, the chief executive officer of NanoFilm will be appointed as the chief executive officer of PEN. Dr. Yaniv will be appointed as Vice President of Strategic Innovation of PEN. Also, at the effective time of the Merger, Bruce Vereecken, the chief financial officer of NanoFilm will become the chief financial officer of PEN. Mr. Baker, the Company's current chief financial officer will remain as a consultant to PEN.

The board of directors of the combined company will be comprised of seven members. Three independent directors will be designated by the Company: Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman. Four directors will be designated by Nano: Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert and, the Zeiss nominee who is James Sharp. In addition, for a period of one year after the closing of the Merger, the Company has the right to designate an observer to the board of directors and has designated Paul Rocheleau to that role. Following completion of the Merger, the combined company will continue with operations in Valley View, Ohio and Austin, Texas and the business of the Company and the business of NanoFilm will continue to operate under their existing names.

The board of directors of the Company, PEN, MergerSub, and Nano have approved the Merger Agreement, and each board of directors has voted to recommend that stockholders adopt the Merger Agreement. Zeiss has also approved the Merger Agreement.

Consummation of the Merger is subject to certain conditions, including (i) approval by the holders of at least a majority of the Company's common stock, (ii) payment or conversion of all Company debt that is convertible into its equity securities (exclusive of the any securities issued as part of the Bridge Financing), and (iii) the absence of any law restraining, enjoining or prohibiting the Merger. Moreover, each party's obligation to consummate the Merger and the exchange is subject to certain other conditions including (a) the accuracy of the other parties' representations and warranties (subject to customary materiality qualifiers) and (b) the other parties' material compliance with its covenants and agreements contained in the Merger Agreement.

The Company has made customary representations and warranties and covenants in the Merger Agreement, including covenants regarding: (i) the conduct of the business of the Company prior to closing in accordance with certain parameters, (ii) the calling and holding of a meeting of the Company's shareholders for the purpose of obtaining shareholder approval and (iii) the use of reasonable best efforts to cause the Merger to be consummated.

The Company is subject to a "no-shop" restriction on its ability to solicit alternative acquisition proposals from third parties and to provide information to and participate in discussions and engage in negotiations with third parties regarding alternative acquisition proposals. However, prior to shareholder approval of the Merger, the Company's Board may, under certain circumstances, provide information to and participate in discussions and engage in negotiations with third parties with respect to an alternative acquisition proposal that the Board of Directors has determined is, or could reasonably be expected to result in, a "Superior Proposal" (as defined in the Merger Agreement).

The Merger Agreement contains certain termination rights for both the Company and Nano, including if the Merger is not completed on or before July 31, 2014.

The foregoing summary of the Merger Agreement is not a complete description of all of the parties' rights and obligations under the Merger Agreement and is qualified in its entirety by reference to the Merger Agreement, a copy of which is filed as Exhibit 2.1 hereto and is incorporated herein by reference.

The Merger Agreement and the foregoing summary of the Merger Agreement have been included to provide investors and security holders with information regarding the terms of the Merger Agreement. It is not intended to provide any other factual information about the Company, Nano, Zeiss or their respective subsidiaries or affiliates. The representations, warranties and covenants contained in the Merger Agreement were made only for purposes of that agreement and as of specified dates; were made solely for the benefit of the parties to the Merger Agreement; may be subject to limitations agreed upon by the parties to the Merger Agreement, including being qualified by confidential disclosures made for purposes of allocating contractual risk between the parties instead of establishing these matters as facts; and may be subject to standards of materiality applicable to the contracting parties that differ from those applicable to investors. Investors should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of the Company, Nano or any of their respective subsidiaries, affiliates or businesses. Moreover, information concerning the subject matter of the representations, warranties and covenants may change after the date of the Merger Agreement, which subsequent information may or may not be fully reflected in the public disclosures of the Company or Nano.

Item 5.02 Departure of Directors or Certain Officers; Election Of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

On March 10, 2014, Mr. Baker tendered his resignation as the Company's chief financial officer and as a Director effective March 15, 2014. Mr. Baker has agreed to act as a consultant to the Company for a period of up to one year on an as needed basis. In that connection, the Company has issued to Mr. Baker its promissory note for \$75,000 that the Company must pay on the earlier of the time of the Merger or December 31, 2014. This note can be paid by delivery of 1,500,000 shares of the Company's common stock (or, if the Merger has occurred, PEN Class A common stock). The Company has also entered into a Stock Grant Agreement with Mr. Baker providing for the issuance of up to 3,289,580 additional shares of PEN Class A common stock on three grant dates, the latest being January 31, 2015, and has entered into a Piggyback Registration Rights Agreement with Mr. Baker that, subject to other customary terms and conditions, will permit him to include shares acquired under the note and under the stock grant agreement in a registration statement filed by the Company if the Company registers its stock under the Securities Act of 1933. Mr. Baker and the Company have also entered into a Termination Agreement with mutual releases as part of these agreements.

On March 10, 2014 in connection with the Merger Agreement the Company and Dr. Yaniv entered into a letter agreement setting forth amended compensation arrangements and the terms of his continued employment with the Company after the Merger. At the time of the Merger, Dr. Yaniv will become Vice President of Strategic Innovation for the Company reporting to Dr. Rickert. This amendment will include mutual releases and a grant of 6,800,000 shares of PEN's Class A Common Stock, subject to forfeiture restrictions that are set out in a Restricted Stock Agreement attached to the letter agreement. Dr. Yaniv will also be entitled to piggyback registration rights that will allow him, subject to other customary terms and conditions, to register the recently awarded shares when they are no longer subject to forfeiture if the Company is registering its stock.

Item 7.01 Regulation FD Disclosure.

On March 11, 2014 we issued a joint press release with Nano regarding the execution of the Merger Agreement and our proposed business combination. The press release is attached hereto as Exhibit 99.1 and incorporated herein by this reference.

The information contained in the press release attached hereto is being furnished and shall not be deemed filed for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liability of that Section, and shall not be incorporated by reference into any registration statement or other document filed under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

- 2.1 Agreement and Plan of Merger and Exchange, dated as of March 10, 2014, by and among Applied Nanotech Holdings, Inc., PEN INC., NanoMerger Sub Inc., NanoHolding Inc, and Carl Zeiss, Inc. (the Company hereby agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request).
- 10.1 Voting and Conversion Agreement, dated March 10, 2014 among the Company, Doug Baker, Ronald Berman, Paul Rocheleau, Robert Ronstadt, Howard Westerman, and Zvi Yaniv (furnished herewith).
- 10.2 Separation and Release Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (furnished herewith).
- 10.3 Consulting Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (furnished herewith).
- 10.4 Promissory Note, dated March 10, 2014 issued by the Company to Douglas P. Baker (furnished herewith).
- 10.5 Stock Grant Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (furnished herewith).
- 10.6 Piggyback Registration Rights Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (furnished herewith).
- 10.7 Letter Agreement, dated March 10, 2014, between the Company and Dr. Zvi Yaniv together with its Annexes, the Termination of Employment Agreement and Mutual Releases, Restricted Stock Agreement, and PiggyBack Registration Rights Agreement (furnished herewith).
- 99.1 Joint Press Release of Applied Nanotech Holdings, Inc. and Nanofilm, Ltd. dated March 11, 2014 (furnished herewith).

ADDITIONAL INFORMATION AND WHERE TO FIND IT

In connection with the merger of APNT and Nanofilm discussed in this Form 8-K, we will be filing a proxy statement and relevant documents concerning the transaction with the Securities and Exchange Commission ("SEC"). OUR SECURITY HOLDERS ARE URGED TO READ THE PROXY STATEMENT AND ANY OTHER RELEVANT DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION. Investors and security holders can obtain free copies of the proxy statement and other documents when they become available by contacting our Investor Relations Department, 3006 Longhorn Boulevard, Suite 107, Austin, Texas 78758 (Telephone: (512) 339-5020). In addition, documents we filed with the SEC are available free of charge at the SEC's web site at <http://www.sec.gov> and at our website www.appliednanotech.net under "Investor Information - SEC Filings."

Our company and our directors and executive officers and other persons may be deemed to be participants in the solicitation of proxies in respect of the proposed merger discussed in this Form 8-K. Information regarding our directors and executive officers is available in our Annual Report on Form 10-K for the year ended December 31, 2013, which was filed with the SEC on February 25, 2014, and the proxy statement and other relevant materials to be filed with the SEC in connection with these matters. Other information regarding the participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the proxy statement and other relevant materials to be filed with the SEC when they become available.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Applied Nanotech Holdings, Inc.

Date: March 11, 2014

By: /s/ Douglas P. Baker
Chief financial Officer

**AGREEMENT AND PLAN OF MERGER
AND EXCHANGE
BY AND AMONG
APPLIED NANOTECH HOLDINGS, INC.
PEN INC.,
NANOMERGER SUB INC.
NANO HOLDINGS INC.,
AND
CARL ZEISS, INC.**

Dated: March 10, 2014

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AGREEMENT AND PLAN OF MERGER AND EXCHANGE

This AGREEMENT AND PLAN OF MERGER AND EXCHANGE, dated as of March 10, 2014 is entered into by and among APPLIED NANOTECH HOLDINGS, INC., a corporation incorporated in the State of Texas, USA ("**APNT**"), PEN INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**PEN**"), NANOMERGER SUB INC., a corporation incorporated in the State of Delaware and a wholly-owned subsidiary of APNT ("**MergerSub**"), NANOHOLDING INC., a Delaware corporation ("**Nano**") AND CARL ZEISS INC., a New York corporation ("**Zeiss**"). APNT, PEN, MergerSub and other subsidiaries of APNT are referred to herein as, the "**APNT Parties**". Each of the Parties to this Agreement is individually referred to herein as a "**Party**" and collectively as the "**Parties.**" Capitalized terms used herein that are not otherwise defined herein shall have the meanings ascribed to them in *Annex A* hereto.

BACKGROUND

APNT has formed a wholly-owned subsidiary, PEN, solely for the purposes of the merger of APNT with and into PEN pursuant to the applicable sections of the General Corporation Law of the State of Delaware (the "**DGCL**") and applicable sections of the Texas Business Organizations Code (the "**TBOC**") in which PEN will be the surviving corporation (the "**Redomestication Merger**").

APNT has formed a wholly-owned subsidiary, MergerSub, solely for the purposes of the merger of Nano with and into MergerSub pursuant to the applicable sections of the DGCL (the "**Nano Merger**"). The Redomestication Merger and the Nano Merger are collectively referred to hereinafter as the "**Merger**" or "**Mergers**".

For U.S. federal income tax purposes, APNT and Nano intend that the Mergers will qualify as a "reorganization" within the meaning of Section 368 of the Code, that this Agreement will constitute a "plan of reorganization" for purposes of the Code, and that APNT, PEN, MergerSub and Nano will each be a "party" to the reorganization.

APNT and Zeiss desire that Zeiss participate in the business combination through a direct exchange by which Zeiss will transfer to PEN, immediately after the Nano Merger, its Class Z Units of membership interest (the "**Z Units**") in Nanofilm Ltd, an Ohio limited liability company ("**Nanofilm LLC**") in exchange for shares of PEN as further described herein (the "**Exchange**"). The Board of Directors of APNT (i) has determined that the Redomestication Merger and Nano Merger are advisable and fair to, and in the best interests of, APNT and its stockholders, (ii) has approved this Agreement, the Mergers, the issuance of the PEN Shares to the stockholders of APNT and shares of PEN to the stockholders of Nano and to Zeiss pursuant to the terms of this Agreement, (iii) has determined that this Agreement and the other actions contemplated by this Agreement are advisable and (iv) has determined to recommend that the stockholders of APNT vote to approve the Mergers, the issuance of the shares of PEN pursuant to the terms of this Agreement, and such other actions as contemplated by this Agreement.

The Board of Directors of PEN (i) has determined that the Mergers and the Exchange are advisable and fair to, and in the best interests of, PEN and its sole stockholder, (ii) has approved this Agreement, the Mergers, the Exchange and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has determined to recommend that the stockholder of PEN vote to approve the Mergers, the Exchange and such other actions as contemplated by this Agreement.

The Board of Directors of MergerSub (i) has determined that the Mergers are advisable and fair to, and in the best interests of, MergerSub and its sole stockholder, (ii) has approved this Agreement, the Mergers, and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has determined to recommend that the stockholder of MergerSub vote to approve the Mergers and such other actions as contemplated by this Agreement.

The Board of Directors of Nano (i) has determined that the Nano Merger is advisable and fair to, and in the best interests of, Nano and its stockholders, (ii) has approved this Agreement, the Nano Merger and the other actions contemplated by this Agreement and has deemed this Agreement advisable and (iii) has approved and determined to recommend the approval and adoption of this Agreement and the approval of the Nano Merger to the stockholders of Nano.

Zeiss has authorized this Agreement and the Exchange.

In order to induce Nano to enter into this Agreement and to cause the Mergers to be consummated, directors of APNT and their affiliates listed on the signature pages to Exhibit A, are executing voting agreements in favor of the Mergers concurrently with the execution and delivery of this Agreement in the form substantially attached hereto as Exhibit A (the "**Voting and Conversion Agreements**").

In order to induce Nano to enter into this Agreement and to cause the Mergers to be consummated, the directors, the President and Chief Financial Officer of APNT have agreed to modify the terms and conditions of their compensation arrangements with APNT on terms and conditions agreed to among such officers and directors, APNT and Nano (the "**Amended Compensation Agreements**").

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing and the respective representations, warranties, covenants and agreements set forth herein, and intending to be legally bound hereby, the Parties agree as follows:

ARTICLE I

The Redomestication Merger

SECTION 1.1 *The Redomestication Merger*. At the Redomestication Merger Effective Time, APNT will be merged with and into PEN in accordance with the applicable sections of the DGCL, the TBOC and this Agreement, and the separate corporate existence of APNT will thereupon cease. PEN (sometimes hereinafter referred to as the "**Surviving Corporation**") will be the surviving corporation in the Redomestication Merger. The Redomestication Merger will have the effects specified in the DGCL and the TBOC.

SECTION 1.2 *Filing of Certificate of Merger; Redomestication Merger Effective Time*. As soon as practicable following the satisfaction or, to the extent permitted by applicable Legal Requirements, waiver of the conditions to the Closing set forth in Article XII, if this Agreement shall not have been terminated prior thereto as provided in Section 14.1, APNT and PEN shall cause (a) a certificate of merger (the "**Certificate of Redomestication Merger**") meeting the applicable sections of the DGCL to be properly executed and filed in accordance with the applicable requirements of the DGCL, and (b) certificate of merger meeting the requirements of applicable sections of the TBOC to be properly executed and filed in accordance with such sections. The Redomestication Merger shall become effective at the time designated in the Certificate of Redomestication Merger (the "**Redomestication Merger Effective Time**").

ARTICLE II
The Nano Merger and Z Unit Exchange

SECTION 2.1 *Integrated Transaction*. The Nano Merger will take place immediately after the Redomestication Merger Effective Time. Subject to the terms and conditions of this Agreement, at the Nano Merger Effective Time (as defined in Section 2.2 below), Nano will be merged with and into MergerSub in accordance with this Agreement and the applicable provisions of the DGCL, and the separate corporate existence of Nano will thereupon cease. The Nano Merger shall have the effects specified in the relevant sections of the DGCL. The Redomestication Merger, the Nano Merger and the Exchange are part of the same integrated transaction, such that, while the Redomestication Merger is a precondition to the Nano Merger and the Exchange, and the Redomestication Merger and the Nano Merger are preconditions to the Exchange, neither of the Mergers nor the Exchange shall occur without the others.

SECTION 2.2 *Filing of Certificate of Merger; Nano Merger Effective Time*. As soon as practicable following the satisfaction or, to the extent permitted by applicable Legal Requirements, waiver of the conditions to the Closing set forth in Article XII, if this Agreement shall not have been terminated prior thereto as provided in Section 14.1, Nano and MergerSub shall cause a certificate of merger (the “*Certificate of Nano Merger*”) meeting the applicable sections of the DGCL, to be properly executed and filed in accordance with the applicable requirements of the DGCL. The Nano Merger shall become effective at the time designated in the Certificate of Nano Merger (the “*Nano Merger Effective Time*”).

SECTION 2.3 *Share Exchange for Z Units*. At the Closing, immediately after the Nano Merger Effective Time, Zeiss shall exchange the Z Units for that number of validly issued, fully paid and non-assessable shares of Class Z Common Stock, par value \$0.0001, of PEN equal to the product of the number of Z Units multiplied by the Exchange Ratio.

SECTION 2.4 *Effect of Nano Merger and Exchange*; Zeiss and Nano are the sole members of Nanofilm LLC. At the Closing, following the Nano Merger Effective Time and the Exchange, Nanofilm LLC will be a wholly-owned subsidiary of PEN.

ARTICLE III
Charter Documents, Directors and Officers of PEN and MergerSub

SECTION 3.1 *Articles of Incorporation of Surviving Corporation*. The Articles of Incorporation of PEN as set forth in Exhibit B-1 attached hereto shall be the Articles of Incorporation of the Surviving Corporation, until duly amended in accordance with applicable Legal Requirements.

SECTION 3.2 *Bylaws of Surviving Corporation*. The bylaws of PEN as set forth in Exhibit B-2 attached hereto shall be the bylaws of the Surviving Corporation, until duly amended in accordance with applicable Legal Requirements.

SECTION 3.3 *Directors of Surviving Corporation*. The directors of PEN immediately following the Redomestication Merger Effective Time shall be the directors of the Surviving Corporation, until the earlier of the Nano Merger Effective Time at which time the Combined Board will be established under Section 11.4(a), or, if this Agreement shall have been terminated prior thereto as provided in Section 14.1, their death, resignation or removal or until their respective successors are duly elected and qualified, as the case may be.

SECTION 3.4 *Officers of Surviving Corporation*. The officers of PEN immediately following the Redomestication Merger Effective Time shall be the officers of the Surviving Corporation, until the earlier of the Nano Merger Effective Time at which time the Combined Board will appoint the officers of the Surviving Corporation as provided under Section 11.4(c), or if this Agreement shall have been terminated prior thereto as provided in Section 14.1, their death, resignation or removal or until their respective successors are duly elected and qualified, as the case may be.

SECTION 3.5 *Articles of Incorporation of MergerSub*. The Articles of Incorporation of Nanofilm Holdings Inc. as set forth in Exhibit C-1 attached hereto shall be the Articles of Incorporation of MergerSub until duly amended in accordance with applicable Legal Requirements.

SECTION 3.6 *Bylaws of MergerSub*. The bylaws of Nanofilm Holdings Inc. as set forth in Exhibit C-2 attached hereto shall be the bylaws of MergerSub as the surviving corporation, until duly amended in accordance with applicable Legal Requirements.’

SECTION 3.7 *Directors of MergerSub*. The sole director of Nanofilm Holdings Inc. immediately following the Nano Merger Effective Time shall be Scott Rickert until the earlier of his death, resignation or removal or until his successor is duly elected and qualified.

ARTICLE IV Conversion and Exchange of Securities

SECTION 4.1 *Conversion of Securities in the Redomestication Merger*. At the Redomestication Merger Effective Time, by virtue of the Redomestication Merger and without any action on the part of the holder of any shares:

(a) *Conversion of APNT Shares*. Except for the Dissenting Shares, each APNT Share issued and outstanding immediately prior to the Redomestication Merger Effective Time shall be automatically converted into one share of the validly issued, fully paid and non-assessable share of Class A Common Stock, to be issued by PEN in accordance with Section 4.3 below (the “**Redomestication Merger Consideration**”).

(b) *Cancellation of PEN Shares Owned by APNT*. Each issued and outstanding share of common stock of PEN that is owned by APNT immediately prior to the Redomestication Merger Effective Time shall automatically be cancelled and retired and shall cease to exist, and no consideration shall be delivered or deliverable in exchange therefor.

(c) *Dissenting Holders of APNT Shares*. Notwithstanding any other provision contained in this Agreement, APNT Shares that are issued and outstanding as of the Effective Time and that are held by a shareholder who has not voted such APNT Shares in favor of the Redomestication Merger and who is entitled to demand and properly demands the fair value of such APNT Shares pursuant to, and who complies in all respects with (and has otherwise taken all of the steps required by) Subchapter H of Chapter 10 of the TBOC to properly exercise and perfect such shareholder’s rights of dissent and appraisal (the “**Dissenting Shares**”) shall be deemed to have ceased to represent any interest in the Surviving Corporation as of the Redomestication Merger Effective Time and shall be entitled to those rights and remedies set forth in Subchapter H of Chapter 10 of the TBOC; EXCEPT that in the event that a shareholder of APNT fails to perfect, withdraws or otherwise loses any such right or remedy granted by the TBOC, the APNT Shares held by such shareholder shall be converted into and represent only the right to receive the Redomestication Merger Consideration specified in Section 4.1(a) of this Agreement. APNT shall give Nano (i) prompt notice of any written notices to exercise dissenters’ rights in respect of any APNT Shares, attempted withdrawals of such notices, and any other instruments served pursuant to Legal Requirements that are received by APNT with respect to shareholders’ rights of dissent and appraisal and (ii) the opportunity to participate in and direct all negotiations and proceedings with respect to any such demands for payment of fair value under the TBOC. APNT shall not, without the prior written consent of Nano, voluntarily make any payment with respect to, or settle or offer to settle any such demands for payment of fair value under the TBOC.

SECTION 4.2 *Conversion of Securities in the Nano Merger.* At the Nano Merger Effective Time, by virtue of the conversion and without any action on the part of the holder of any shares:

(a) *Conversion of Nano Shares.* Each issued and outstanding share of Common Stock of Nano shall be cancelled and shall automatically be converted into the right to receive that number and class of validly issued, fully paid and non-assessable shares of PEN equal to that number obtained by multiplying the Exchange Ratio with the number of Units of membership interest in Nanofilm LLC owned by Nano with the shares of PEN issued to the holders of Nano Shares in proportion to the number of shares owned by each of them as follows (the “*Nano Merger Consideration*”):

(i) each share of Class A Common Stock in Nano, outstanding immediately prior to the Nano Merger Effective Time shall be converted into shares of the PEN Class A common stock, \$0.0001 par value per share; and

(ii) each share of Class B Common Stock in Nano, outstanding immediately prior to the Nano Merger Effective Time shall be converted into shares of the PEN Class B common stock, \$0.0001 par value per share.

(b) *MergerSub Shares Owned by APNT.* Each issued and outstanding share of MergerSub that is owned by APNT immediately prior to the Nano Merger Effective Time shall remain outstanding and unchanged.

(c) *Dissenting Holders of Nano Shares.* Notwithstanding any other provision contained in this Agreement, shares in Nano that are issued and outstanding as of the Nano Merger Effective Time and that are held by a person who has not voted such shares in favor of the Nano Merger and who is entitled to demand and properly demands the fair value of such shares pursuant to, and who complies in all respects with (and has otherwise taken all of the steps required by) the applicable provisions of the DGCL to properly exercise and perfect such shareholder’s rights of dissent and appraisal shall be deemed to have ceased to represent any interest in the shares of Nano or shares of PEN as of the Nano Merger Effective Time and shall be entitled to those rights and remedies set forth in the DGCL; EXCEPT that in the event that a holder of shares in Nano fails to perfect, withdraws or otherwise loses any such right or remedy granted by the DGCL, the shares held by such holder shall be converted into and represent only the right to receive the Nano Merger Consideration specified in Section 4.2(a) of this Agreement.

SECTION 4.3 *Certificates Representing APNT Shares.*

(a) From and after the Redomestication Merger Effective Time, all of the certificates and other documents or instruments that immediately prior to that time represented outstanding APNT Shares (“*APNT Certificates*”) shall be deemed for all purposes to evidence ownership of, and to represent, the shares of Class A Common Stock, par value \$0.0001, of PEN into which the APNT Shares represented by such APNT Certificates have been converted as provided for in Section 4.1(a) subject to Section 4.1(c). No certificates for PEN Shares will be issued as a result of the Redomestication Merger, and no holder of record of any APNT Certificates shall be entitled to surrender any Certificate for cancellation to PEN or its transfer agent in exchange for a certificate representing that number of PEN Shares which such holder has the right to receive pursuant to the provisions of this Article IV. The registered owner on the books and records of PEN or its transfer agent of any such Certificate shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares evidenced by such Certificate as above provided.

(b) The holders of those APNT Certificates representing PEN Shares shall be entitled to be entered on the register of shareholders of PEN as holders of that number of PEN Shares represented by the APNT Certificates. The registered owner from time to time entered in the register of shareholders of PEN shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares in respect of which it is a registered owner.

(c) At or after the Redomestication Merger Effective Time until after the Nano Merger Effective Time, there shall be no transfers on the stock transfer or other books of APNT of the APNT Shares which were outstanding immediately prior to the Redomestication Merger Effective Time. At or after the Redomestication Merger Effective Time until after the Nano Merger Effective Time, there shall be no transfers on the stock transfer or other books of PEN of the PEN Shares which were outstanding immediately prior to the Redomestication Merger Effective Time.

(d) Following the Merger Effective Time, each holder of record of one or more APNT Certificates may, but shall not be required to, surrender any Certificate for cancellation to PEN or its transfer agent, and the holder of such Certificate shall be entitled to be entered on the register of shareholders of PEN as the holder of that number of PEN Shares represented by the APNT Certificates, as applicable, and the APNT Certificates so surrendered shall forthwith be cancelled. In the event of a transfer of ownership of APNT Shares which is not registered in the transfer records of APNT or a transfer of ownership of PEN Shares which is not registered in the transfer records of PEN, a certificate or other applicable document or instrument representing the proper number of PEN Shares may be issued to such a transferee (in the case of PEN Shares, PEN shall enter the transferee on the register of shareholders of PEN as the holder of the proper number of PEN Shares, in lieu of or in addition to issuing share certificates for such PEN Shares) if the Certificate representing such APNT Shares or PEN Shares is presented to PEN or its transfer agent, accompanied by all documents required to evidence and effect such transfer and to evidence that any applicable stock transfer taxes have been paid.

(e) If any APNT Certificates representing the APNT Shares shall have been lost, stolen or destroyed, PEN shall issue in exchange for such lost, stolen or destroyed APNT Certificates, upon the making of an affidavit of that fact by the holder thereof, certificates or documents representing the PEN Shares to be issued to such holder pursuant to this Article IV (in the case of PEN Shares, PEN shall enter the holder on the register of shareholders of PEN as the holder of the proper number of PEN Shares, in lieu of or in addition to issuing share certificates for such PEN Shares); EXCEPT, that PEN may, in its discretion and as a condition precedent to the issuance thereof (or entry on the register of shareholders, as the case may be), require the owner of such lost, stolen or destroyed APNT Certificates to deliver a bond or indemnity in such sum as it may reasonably direct as indemnity against any claim that may be made against PEN with respect to the APNT Certificates so alleged to have been lost, stolen or destroyed.

SECTION 4.4 *Certificates Representing Nano Shares and Z Units.*

(a) From and after the Nano Merger Effective Time, all of the holders of record of shares of Nano Class A Common Stock and Nano Class B Common Stock (the "Nano Shares") that are entitled to receive shares of PEN pursuant to Section 4.2(a) (subject to Section 4.2(c)) shall be owners of the PEN Shares into which the Nano Shares are entitled to receive pursuant to Section 4.2(a) subject to Section 4.2(c). From and after the Closing, Zeiss shall be the owner of the PEN Shares that Zeiss is entitled to receive pursuant to Section 2.3. No certificates for PEN Shares will be issued as a result of the Nano Merger or the Exchange. The registered owner on the books and records of PEN or its transfer agent as a result of the exchange of ownership of Nano Shares for PEN shares as provided for in Section 4.2(a) (subject to Section 4.2(c)) and the Exchange under Section 2.3 shall have and be entitled to exercise any voting and other rights with respect to and to receive any dividend and other distributions upon the PEN Shares as above provided.

(b) *No Further Rights in Nano Shares or Z Units*. All shares of PEN issued upon conversion of Nano Shares in accordance with the terms hereof shall be deemed to have been paid and issued in full satisfaction of all rights pertaining to such Nano Shares. All shares of PEN issued in exchange for the Z Units in accordance with the terms hereof shall be deemed to have been paid and issued in full satisfaction of all Zeiss's rights pertaining to the Z Units.

(c) *No Fractional Shares*. No certificates or scrip of shares of PEN representing fractional Nano Shares or Z Units will be issued; in lieu thereof, PEN shall issue one share of the applicable class of PEN Common Stock to the holder of any Nano Shares or to Zeiss in exchange for the Z Units that would otherwise be entitled to such fractional PEN Shares.

(d) *No Liability*. PEN shall not be liable to any holder of Nano Shares or to Zeiss as the holder of Z Units or shares of PEN for any such Nano Shares, Z Units or shares of PEN, as applicable (or dividends or distributions with respect thereto), or cash delivered to a public official pursuant to any abandoned property, escheat or similar Law.

SECTION 4.5 *Effect of the Mergers*.

(a) At the Redomestication Merger Effective Time, the effect of the Redomestication Merger shall be as provided in this Agreement and the applicable provisions of TBOC and DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Redomestication Merger Effective Time, all the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of APNT and PEN shall become the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of PEN, which shall include the assumption by PEN of any and all agreements, covenants, duties and obligations of APNT and PEN as set forth in this Agreement to be performed after the Closing.

(b) At the Nano Merger Effective Time, the effect of the Nano Merger shall be as provided in this Agreement and the applicable provisions of the DGCL. Without limiting the generality of the foregoing, and subject thereto, at the Nano Merger Effective Time, all the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of MergerSub and Nano shall become the property, rights, privileges, agreements, powers and franchises, debts, liabilities, duties and obligations of MergerSub. In addition, at the Nano Merger Effective Time, PEN shall enter into such agreements as may be required to evidence (i) any obligations required of PEN by the lender to Nano or Nanofilm LLC; (ii) obligations of Nanofilm LLC under its Stock Appreciation Rights and Equity Credits programs; and (iii) any and all agreements, covenants, duties and obligations of Nano and Merger Sub as set forth in this Agreement to be performed after the Closing.

ARTICLE V The Closing

SECTION 5.1 *Closing*. The Closing (the "**Closing**") of the Redomestication Merger, Nano Merger, the Exchange and the other transactions contemplated hereby (the "**Transactions**"), shall take place at the offices of Legal & Compliance, LLC in West Palm Beach, Florida commencing at 9:00 a.m. local time on the third business day following the satisfaction or waiver of all conditions and obligations of the Parties to consummate the Transactions contemplated hereby (other than conditions and obligations with respect to the actions that the respective Parties will take at Closing), or on such other date and at such other time as the Parties may mutually determine (the "**Closing Date**").

SECTION 5.2 *Deliveries of the Parties*. At the Closing, (i) Nano shall deliver to the APNT Parties the various certificates, opinions, instruments, agreements and documents referred to in Section 12.2 below, (ii) the APNT Parties shall deliver to Nano the various certificates, opinions, instruments, agreements and documents referred to in Section 12.1 below, (iii) PEN shall deliver to Zeiss the various certificates, opinions, instruments, agreements and documents referred to in Section 12.4 below, and (iv) Zeiss shall deliver to PEN the various certificates, opinions, instruments, agreements and documents referred to in Section 12.3 below.

SECTION 5.3 *No Survival*. The representations and warranties of the Parties in this Agreement will not survive the Closing. Following the Closing, no Party shall have and no Party shall assert any claim against any other Party based either on (i) the representations and warranties contained herein, or (ii) any pre-closing covenant.

SECTION 5.4 *Further Assurances*. Subject to the terms and conditions of this Agreement, at any time or from time to time after the Closing, each of the Parties shall execute and deliver such other documents and instruments, provide such materials and information and take such other actions as may be commercially reasonable, to the extent permitted by law, to fulfill its obligations under this Agreement and to effectuate and consummate the Transactions.

ARTICLE VI Representations and Warranties of Nano

Except as set forth in the Disclosure Schedule of Nano attached hereto as Schedule D (the “**Nano Disclosure Schedule**”) Nano represents and warrants to APNT as follows:

SECTION 6.1 *Nano Capital Structure*. The authorized share capital of Nano and the total number of issued and outstanding Nano Shares are set forth in Section 6.1(a) of the Nano Disclosure Schedule. Except as set forth in Section 6.1(a) of the Nano Disclosure Schedule: (i) no Nano Shares or other voting securities of Nano are issued, reserved for issuance or outstanding; (ii) all outstanding Nano Shares are duly authorized, validly issued, fully paid and nonassessable and are not subject to or issued in violation of any purchase option, call option, right of first refusal, preemptive right, subscription right or any similar right under any provision of the Nano Constituent Instruments or any Contract to which Nano is a party or otherwise bound; (iii) there are no bonds, debentures, notes or other indebtedness of Nano having the right to vote (or convertible into, or exchangeable for, securities having the right to vote) on any matters on which holders of the Nano Shares may vote (“*Voting Nano Debt*”); (iv) there are no options, warrants, rights, convertible or exchangeable securities, “phantom” stock rights, stock appreciation rights, stock-based performance units to which Nano is a party or is bound (A) obligating Nano to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares or other equity interests in, or any security convertible or exercisable for or exchangeable into any shares of capital stock of or other equity interest in, Nano or any Voting Nano Debt, or (B) obligating Nano to issue, grant, extend or enter into any such option, warrant, call, right, security, commitment, Contract, arrangement or undertaking; (v) except as contemplated by this Agreement, there are no outstanding contractual obligations of Nano to repurchase, redeem or otherwise acquire any of its shares of capital stock; and (vi) except as contemplated by this Agreement, there are no registration rights, and there is no voting trust, proxy, or other agreement or understanding to which Nano is a party or by which Nano is bound with respect to any equity security of any class of Nano.

SECTION 6.2 *Organization and Standing*. Except as set forth in Section 6.2 of the Nano Disclosure Schedule, each of the Nano Entities is (i) duly organized, validly existing and in good standing (with respect to jurisdictions that recognize the concept of good standing) under the laws of its respective jurisdiction of incorporation, organization or formation, and (ii) duly qualified to do business in each of the jurisdictions in which the property owned, leased or operated by it or the nature of the business which it conducts requires qualification, except where the failure to so qualify would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. Each of the Nano Entities has all requisite power and authority to own, lease and operate its assets (tangible and intangible) and to carry on its business as now being conducted. Nano has delivered to APNT true and complete copies of the Nano Constituent Instruments. The minute book and stock register of Nano is true and complete in all material respects and copies of such documents, together with true and correct copies of the minute books and registers of the other Nano Entities, have been made available to APNT. The share transfer and ownership records of the Nano Entities are true and complete in all material respects. Copies of such records have been made available to APNT.

SECTION 6.3 *Authority; Execution and Delivery; Enforceability.*

(a) Nano has all requisite corporate or other entity power and authority to execute and deliver this Agreement and any Transaction Documents to which it is a party and to consummate the Transactions contemplated hereby and thereby. The execution, delivery and performance by Nano of this Agreement and its consummation of the Transactions have been duly authorized and approved by the board of directors of Nano, such authorization and approval remains in effect and has not been rescinded or qualified in any way, and no other proceedings on the part of any such entities are necessary to authorize this Agreement and the Transactions.

(b) Each of this Agreement and the Transaction Documents to which Nano is a party has been, or on the Closing Date will be, duly executed and delivered by such party and constitutes the valid, binding, and enforceable obligation of such party, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

SECTION 6.4 *Subsidiaries; No Equity Interests.* Section 6.4 of the Nano Disclosure Schedule lists all Subsidiaries of Nano and indicates as to each the type of entity and its jurisdiction of organization. Except as set forth in Section 6.4 of the Nano Disclosure Schedule, Nano does not directly or indirectly own any other equity or similar interest in or any interest convertible or exchangeable or exercisable for, any equity or similar interest in, any corporation, partnership, joint venture or other business association or entity. Except as set forth in Section 6.4 of the Nano Disclosure Schedule, Nano is the direct, indirect or beneficial owner of all registered capital or outstanding shares of capital stock (as applicable) of its Subsidiaries, and all such registered capital and shares are duly authorized, validly issued, fully paid and nonassessable and are owned by Nano free and clear of all Liens (except for clause (a) of the definition of Permitted Liens). Except as set forth in Section 6.4 of the Nano Disclosure Schedule, there are no outstanding subscriptions, options, warrants, puts, calls, rights, exchangeable or convertible securities or other commitments or agreements of any character relating to the issued or unissued capital stock or other securities of any Subsidiaries of Nano or otherwise obligating any Subsidiaries of Nano to issue, transfer, sell, purchase, redeem or otherwise acquire any such securities.

SECTION 6.5 *No Conflicts.* Except as set forth in Section 6.5 of the Nano Disclosure Schedule, the execution and delivery of this Agreement or any of the Transaction Documents by each of Nano and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon any of the assets and properties of any Nano Entity under any provision of: (i) any Nano Constituent Instrument; (ii) any Material Contract (as defined in Section 6.14) to which any Nano Entity is a party or to or by which it (or any of its assets and properties) is subject or bound; or (iii) any material Permit of any Nano Entity; (b) subject to the filings and other matters referred to in Section 6.6, conflict with or violate in any material respect any Judgment or Legal Requirement applicable to any Nano Entity, or its properties or assets; (c) terminate or modify, or give any third party the right to terminate or modify, the provisions or terms of any Material Contract or any Research Contract to which any Nano Entity is a party; or (d) cause any of the assets owned by any Nano Entity to be reassessed or revalued in any material respect by any Governmental Authority, except, in the case of clauses (a)(ii), (a)(iii), (b), (c), and (d) above, any such items that, individually or in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole.

SECTION 6.6 *Consents and Approvals*. Except as set forth in Section 6.6 of the Nano Disclosure Schedule, no material consent, approval, license, permit, order or authorization of, or material registration, declaration or filing with any Governmental Authority ("**Consent**") is required to be obtained or made by or with respect to any Nano Entity in connection with the execution, delivery and performance of this Agreement or the consummation of any of the Transactions.

SECTION 6.7 *Financial Statements*.

(a) Nano has furnished APNT with (i) (x) the audited financial statements for the Nano Entities required to be included in such financial statements for the fiscal year ended December 31, 2012 (the "**Audited Financial Statements**") and (ii) the unaudited consolidated financial statements for the Nano Entities required to be included in such financial statements for the nine-month period ended September 30, 2013 (the "**Unaudited Financial Statements**," and together with the Audited Financial Statements, the "**Nano Financial Statements**"). The Nano Financial Statements have been prepared in accordance with U.S. GAAP, applied on a consistent basis throughout the periods involved (except as may be otherwise specified in the notes thereto). The Audited Financial Statements fairly present in all material respects the consolidated financial condition and operating results, change in stockholders' equity and cash flow of the Nano Entities required to be included in such financial statements as of the date, and for the period, indicated therein and are accompanied by an unqualified opinion of a U.S. registered independent public accounting firm qualified to practice before the Public Company Accounting Oversight Board. The Unaudited Financial Statements fairly present in all material respects the consolidated financial condition and operating results, change in stockholders' equity and cash flow of the Nano Entities required to be included in such financial statements as of the date, and for the period, indicated therein, subject to normal year-end audit adjustments, none of which shall, in the aggregate, be material.

SECTION 6.8 *Absence of Certain Changes or Events*. Except as disclosed in the Nano Financial Statements or in Section 6.8 of the Nano Disclosure Schedule, from September 30, 2013 to the date of this Agreement, there has not been:

(a) any event, situation or effect (whether or not covered by insurance) that has resulted in, or to Nano's Knowledge is reasonably likely to result in, a Material Adverse Effect on the Nano Entities, taken as a whole;

(b) any material damage, destruction or loss to, or any material interruption in the use of, any of the assets of any of the Nano Entities (whether or not covered by insurance);

(c) any material change to, or amendment or waiver of a material term of, a Material Contract by which any of the Nano Entities or any of its respective assets is bound or subject;

(d) any mortgage, pledge, transfer of a security interest in, or Lien, created by any of the Nano Entities or to which any such entity's properties, assets or rights is subject, with respect to any of its material properties, assets or rights, except for Permitted Liens;

(e) any payments, loans or guarantees made by any of the Nano Entities to or for the benefit of any of its officers or directors, or any members of their immediate families, or any material payments, loans or guarantees made by the Nano Entities to or for the benefit of any of its employees or any members of their immediate families, in each case other than payment of ordinary course compensation and benefits, expense reimbursements, travel advances and other advances made in the ordinary course of its business;

(f) any change of the identity of its auditors or material alteration of any Nano Entity's method of accounting or accounting practice;

(g) any declaration, accrual, set aside or payment of dividend or any other distribution of cash or other property in respect of any shares of capital stock of any Nano Entity or any purchase, redemption or agreements to purchase or redeem by any Nano Entity of any Nano Shares or other securities;

(h) any sale, issuance or grant, or authorization of the issuance of equity securities of any Nano Entity;

(i) any amendment to any Nano Constituent Instruments;

(j) any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction involving any Nano Entity;

(k) any creation of any Subsidiary of any of the Nano Entities or acquisition by any of the Nano Entities of any assets (other than in the ordinary course of business), equity interest or other interest in any other Person;

(l) any material Tax election by any Nano Entity, any change in accounting method in respect of Taxes, any amendment to any Tax Returns, entry into any closing or equivalent agreement, any settlement of any claim or assessment in respect of any Taxes, or any consent to any waiver of the limitation period applicable to any claim or assessment in respect of any Taxes;

(m) any commencement or settlement of any material Actions by any of the Nano Entities;

(n) any granting by any Nano Entity of any increases in compensation (excluding sales commissions) or fringe benefits (in the aggregate), or any payment by any Nano Entity of any bonuses (excluding sales commissions), or any granting by any Nano Entity of any increases in severance or termination pay or any entry by any Nano Entity into any currently effective employment, severance, termination or indemnification agreement the benefits of which are contingent, or the terms of which are materially altered, upon the occurrence of a transaction involving any Nano Entity of the nature contemplated by this Agreement;

(o) any transfer or license to any Person or entity of any Nano Intellectual Property Rights;

(p) other than in the ordinary course of business or as contemplated under (o) above, any sale, lease, license or other disposal of or encumbrance of any of its properties or assets which are material, individually or in the aggregate, to its business in excess of \$50,000;

(q) any payment, discharge, or satisfaction in an amount in excess of \$50,000 of any single claim (or series of related claims), liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) arising other than the payment, discharge or satisfaction of liabilities reflected or reserved against in the Nano Financial Statements or incurred in the ordinary course of business;

(r) any capital expenditures, capital additions or capital improvements, except in the ordinary course of business, that exceed \$50,000 individually or in the aggregate;

(s) any opening or closing of any significant facility or office;

(t) any material revaluation by any Nano Entity of any of its assets, including, without limitation, writing down the value of a material amount of capitalized inventory or writing off a material amount of notes or accounts receivable; or

(u) any negotiations, arrangement or commitment by any of the Nano Entities to take any action ~~s~~ described in this section 6.8.

SECTION 6.9 *No Undisclosed Liabilities.* Except as set forth in Section 6.9 of the Nano Disclosure Schedule, the Nano Entities (considered as a whole) have no obligations or liabilities of any nature (matured or unmatured, fixed or contingent, known or unknown), other than (a) those set forth or adequately provided for in the Balance Sheet included in the Unaudited Financial Statements (the “*Nano Balance Sheet*”), (b) those incurred since the Nano Balance Sheet date in the ordinary course of business and (c) those incurred in connection with the negotiation, execution, delivery and performance of this Agreement.

SECTION 6.10 *Litigation.* Except as set forth in Section 6.10 of the Nano Disclosure Schedule, as of the date of this Agreement, there is no private or governmental action, suit, inquiry, notice of violation, claim, arbitration, audit, proceeding (including any partial proceeding such as a deposition) or investigation (“*Action*”) pending or threatened in writing against any of the Nano Entities, any of their respective officers or directors (in their capacities as such) or any of their respective properties before or by any Governmental Authority which (a) adversely affects or challenges the legality, validity or enforceability of this Agreement or (b) if there were an unfavorable decision, individually or in the aggregate, has had or would reasonably be expected to result in a change to a Research Contract, a claim of breach or default under a Research Contract or former Research Contract, or a Material Adverse Effect on the Nano Entities, taken as a whole. Except as set forth in Section 6.10 of the Nano Disclosure Schedule, there is no Judgment imposed upon any of the Nano Entities, any of their respective officers or directors (in their capacities as such) or any of their respective properties. Neither the Nano Entities, nor any director or officer thereof (in his or her capacity as such), is or has been the subject of any Action involving a material claim or material violation of or material liability under the securities laws of any Governmental Authority or a claim of breach of fiduciary duty.

SECTION 6.11 *Intellectual Property.*

A. Nano has provided to APNT in the data room a complete list of all active patents, patent applications, and provisional patent applications, (collectively, “**Patents**”) owned by any of the Nano Entities (“**Nano Patents**”).

Except as disclosed to APNT in the section of the data room relating to intellectual property,

i. the Nano Entities exclusively own all rights in the Nano Patents, free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties, or
- d. Security interests, mortgages or liens.

ii. No entity other than the Nano Entities has any rights granted by Nano (either current or contingent) to use, make, sell or practice, the inventions protected by any Nano Patents, no employee retains any right to use, make, sell or practice any invention protected by an Nano Patent, and to the Knowledge of the Nano Entities no consultant to Nano retains any such rights.

iii. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, , none of the Nano Entities has received any communications alleging that any Nano Patents are invalid or unenforceable, and Nano has no Knowledge of any basis to allege that any Nano Patents are invalid or unenforceable.

iv. All Nano Patents which are issued or pending before, as applicable, the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, are currently in compliance with formalities and legal requirements necessary to maintain them as currently valid (including without limitation as applicable, the payment of all necessary fees, including without limitation, filing, examination, annuity, maintenance or other fees, and the filing of all necessary documents or statements, including without limitation, necessary proofs of working or use, or other items or documents necessary to maintain such Nano Patents as currently valid).

v. Nano has not licensed Patents from any other Person.

B. Nano has provided to APNT in the data room a complete list of all registered trademarks and service marks, and related applications for registration (collectively, “**Marks**”) which are currently owned or used by any Nano Party (“**Nano Marks**”).

Except as disclosed to APNT in the section of the data room relating to intellectual property,

i. the Nano Entities exclusively own and hold all rights in the Nano Marks free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties; or
- d. Security interests, mortgages, or liens.

ii. No other entity has been granted any rights, either current or contingent, to use any Nano Marks.

iii. All Nano Marks which are registered with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world, are currently in compliance with all formalities and legal requirements necessary to maintain them as currently valid (including, without limitation as applicable, the payment of filing, examination, use, renewal and other fees and timely compliance with post filing requirements including, as applicable, affidavits of use and incontestability, renewals and evidence of use, and all other items to maintain such Nano Marks as currently valid).

iv. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the Nano Entities has received any communications alleging that any Nano Marks are invalid or unenforceable, and Nano has no Knowledge of any basis to allege that any Nano Marks are invalid or unenforceable.

C. Except as disclosed to APNT in the section of the data room relating to intellectual property, to the Knowledge of Nano, no entity has or is, infringing upon any Nano Patents, and no entity is violating the rights of any Nano Entity with respect to Nano Marks or any other Nano proprietary rights.

D. Except as disclosed to APNT in the section of the data room relating to intellectual property,

i. To the Knowledge of Nano there is not nor has there been, any violation of any agreements that currently or previously authorized any other entity to use or practice rights under any Nano Patents,

ii. To the Knowledge of Nano, no entity that has been licensed any rights to use or practice rights under any Nano Patents, has any basis to:

a. Claim against any Nano Party any violation of any agreement which granted the entity such rights or

b. Cease payment or reduce the amount of payments to any Nano Party under the agreement under which such rights were granted.

iii. To the Knowledge of Nano no other entity has a right to claim any interest, whether ownership, license rights or otherwise, in any technology that may be developed by Nano and/or its subsidiaries after the date of this Agreement.

SECTION 6.12 *Taxes.*

(a) The Nano Entities have timely filed, or have caused to be timely filed on their behalf, all Tax Returns relating to Taxes determined by reference to income, earnings, or revenues and all other material Tax Returns that are or were required to be filed by or with respect to any of them, either separately or as a member of group of corporations, pursuant to applicable Legal Requirements. All Tax Returns filed by (or that include on a consolidated basis) any of the Nano Entities were (and, as to a Tax Return not filed as of the date hereof, will be) in all material respects true, complete and accurate. All Taxes due and payable by each of the Nano Entities have been paid by such Nano Entity in compliance with applicable Legal Requirements and there are no unpaid Taxes claimed to be due in writing, or, to the Knowledge of Nano, otherwise claimed, by any Governmental Authority in charge of taxation of any jurisdiction, nor any claim in writing or, to the Knowledge of Nano, any other claim, for additional Taxes for any period for which Tax Returns have been filed.

(b) The Nano Financial Statements reflect an adequate reserve for all Taxes payable by the Nano Entities (in addition to any reserve for deferred Taxes to reflect timing differences between book and Tax items) for all taxable periods and portions thereof through the date of such financial statements. None of the Nano Entities is either a party to or bound by any Tax indemnity, Tax sharing or similar agreement and the Nano Entities currently have no liability and will not have any liabilities for any Taxes of any other Person under any agreement or by the operation of any law. No deficiency with respect to any Taxes has been proposed, asserted or assessed against any of the Nano Entities, and no requests for waivers of the time to assess any such Taxes are pending.

(c) None of the Nano Entities has requested any extension of time within which to file any Tax Return, which Tax Return has not since been filed. None of the Nano Entities has executed any outstanding waivers or comparable consents regarding the application of the statute of limitations with respect to any Taxes or Tax Returns. No power of attorney currently in force has been granted by any of the Nano Entities concerning any Taxes or Tax Return.

SECTION 6.13 *Transactions With Affiliates and Employees.* Except as disclosed in Section 6.13 of the Nano Disclosure Schedule, none of the officers or directors of Nano and none of the Nano Members is a party, directly or indirectly, to any transaction with any of the Nano Entities that is required to be disclosed under Rule 404(a) of Regulation S-K if such Legal Requirement applied to the Nano Entities (other than for services as employees, officers and directors), including any Contract providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer or director or, to the Knowledge of Nano, any entity in which any officer or director has a substantial interest or is an officer, director, partner or other equity holder.

SECTION 6.14 *Material Contracts*. Nano has made available to APNT, prior to the date of this Agreement, true, correct and complete copies of each of the following written Contracts, as amended and supplemented, to which any of the Nano Entities is a party: (i) any agreement that would be considered a material contract with respect to any Nano Entity pursuant to Item 601(b)(10) of Regulation S-K (if such Legal Requirement were applicable to such entities and without reference to “registration statements” or “reports” thereunder); (ii) any loan agreement, mortgage, note, installment obligation, indenture or other instrument, agreement or arrangement relating to any outstanding indebtedness in excess of \$50,000; and (iii) any agreement requiring annual expenditures in excess of \$50,000 (each, a “**Material Contract**”). Except as set forth on Section 6.14) of the Nano Disclosure Schedule, none of the Nano Entities is in violation of or in default under (nor does there exist any condition which upon the passage of time or the giving of notice or both would cause such a violation of or default under) any Contract to which it is a party or by which it or any of its properties or assets is bound except for violations or defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect on the Nano Entities, taken as a whole. To the Knowledge of Nano, except as set forth on Section 6.14 of the Nano Disclosure Schedule, no other Person has materially violated or breached, or committed or suffered any material default under, any Material Contract.

SECTION 6.15 *Compliance with Applicable Laws*. The Nano Entities are in compliance with all applicable Legal Requirements, including those relating to occupational health and safety to which they are subject except for instances of noncompliance that, individually and in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole. Except as set forth in Section 6.15 of the Nano Disclosure Schedule, none of the Nano Entities has received any written communication during the past two years from a Governmental Authority alleging that any of the Nano Entities is not in compliance in any material respect with any applicable Legal Requirement.

SECTION 6.16 *Foreign Corrupt Practices*. Neither the Nano Entities, nor any of the Nano Members, nor to the Knowledge of Nano, has, in the course of its actions for, or on behalf of, the Nano Entities, directly or indirectly, (a) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (b) made any direct or indirect unlawful payment to any Governmental Authority or any foreign or domestic government official or employee from corporate funds; (c) violated or is in violation of any provision of the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder; or (d) made any bribe, rebate, payoff, influence payment, kickback or other unlawful or improper payment in connection with the operations of The Nano Entities to any foreign or domestic government official or employee.

SECTION 6.17 *Brokers*. Except as set forth in Section 6.17 of the Nano Disclosure Schedule, no broker, investment banker, financial advisor or other Person is entitled to any broker’s, finder’s, financial advisor’s or other similar fee or commission in connection with this Agreement or the Transactions based upon arrangements made by or on behalf of the Nano Entities.

SECTION 6.18 *Investment Company*. No Nano Entity is an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the SEC thereunder.

ARTICLE VII
Representations and Warranties of APNT

Except as set forth in the Disclosure Schedule of APNT attached hereto as *Schedule B* (the “**APNT Disclosure Schedule**”), each of the APNT Parties, jointly and severally, represents and warrants to Nano and to Zeiss as follows:

SECTION 7.1 Capital Structure.

(a) Section 7.1(a) of the APNT Disclosure Schedule sets forth the number of authorized and outstanding shares of capital stock of APNT, the number of outstanding options, warrants or rights to acquire any shares of capital stock of APNT, and the authorized shares of capital stock of APNT. After the Redomestication Merger, the authorized share capital of PEN will be as provided for in the Articles of Incorporation of PEN attached hereto as *Exhibit B-1*. Other than those set forth on Section 7.1(a) of the APNT Disclosure Schedule or as contemplated by this Agreement, there are no options, warrants, convertible debt or other rights outstanding which give any Person the right to acquire any share of capital stock of APNT or PEN.

(b) Except as set forth in Section 7.1(b) of the APNT Disclosure Schedule or as contemplated by this Agreement: (i) no shares of capital stock or other voting securities of APNT were issued, reserved for issuance or outstanding; (ii) all outstanding shares of the capital stock of APNT are, duly authorized, validly issued, fully paid and nonassessable and not subject to or issued in violation of any purchase option, call option, right of first refusal, preemptive right, subscription right or any similar right under any provision of the TBOC, the APNT Constituent Instruments (as defined in Section 7.2) or any Contract to which APNT is a party or otherwise bound; and (iii) there are no outstanding contractual obligations of APNT to repurchase, redeem or otherwise acquire any shares of capital stock of APNT.

(c) Except as set forth in Section 7.1(c) of the APNT Disclosure Schedule or as contemplated by this Agreement: (i) there are no bonds, debentures, notes or other indebtedness of APNT having the right to vote (or convertible into, or exchangeable for, securities having the right to vote) on any matters on which holders of Common Stock may vote (“**Voting APNT Debt**”); and (ii) there are no convertible debts, options, warrants, rights, convertible or exchangeable securities, “phantom” stock rights, stock appreciation rights, stock-based performance units, commitments, Contracts, arrangements or undertakings of any kind to which APNT is a party or by which it is bound (A) obligating APNT to issue, deliver or sell, or cause to be issued, delivered or sold, additional shares of capital stock or other equity interests in, or any security convertible or exercisable for or exchangeable into any capital stock of or other equity interest in, APNT or any Voting APNT Debt, or (B) obligating APNT to issue, grant, extend or enter into any such option, warrant, call, right, security, commitment, Contract, arrangement or undertaking.

(d) Except as set forth in Section 7.1(d) of the APNT Disclosure Schedule, APNT is not a party to any agreement granting any security holder of APNT the right to cause APNT to register shares of the capital stock or other securities of APNT held by such security holder under the Securities Act and there is no voting trust, proxy, or other agreement or understanding to which APNT is a party or by which APNT is bound with respect to any equity security of any class of APNT. The stockholder list provided to Nano is a current shareholder list generated by APNT’s stock transfer agent, and such list accurately reflects all of the issued and outstanding shares of APNT’s capital stock.

(f) When issued and delivered in accordance with the terms hereof for the consideration provided for herein and entered in the register of stockholders of PEN, the shares of PEN Common Stock to be issued in the Nano Merger and the Exchange will be duly authorized, validly issued, fully paid and non-assessable.

SECTION 7.2 *Organization and Standing*. The APNT Parties are duly organized, validly existing and in good standing under the laws of their state of organization. The APNT Parties are duly qualified to do business in each of the jurisdictions in which the property owned, leased or operated by the respective APNT Party or the nature of the business which it conducts requires qualification, except where the failure to so qualify would not reasonably be expected to have a Material Adverse Effect on such APNT Party. The APNT Parties have the requisite power and authority to own, lease and operate their tangible assets and properties and to carry on their business as now being conducted. APNT has delivered to Nano true and complete copies of the amended and restated certificate of incorporation of the APNT Parties, as amended and as in effect on the date of this Agreement, and the bylaws of the APNT Parties, as amended and as in effect on the date of this Agreement (the “*APNT Constituent Instruments*”).

SECTION 7.3 *Authority; Execution and Delivery; Enforceability*. APNT has all requisite corporate power and authority to execute and deliver this Agreement and the Transaction Documents to which it is a party and to consummate the Transactions. The execution and delivery by APNT of this Agreement and the consummation by APNT of the Transactions have been duly authorized and approved by the APNT Board and, other than the Stockholder Approval, no other corporate proceedings on the part of APNT are necessary to authorize this Agreement and the Transactions. Other than the Stockholder Approval, all action, corporate and otherwise, necessary to be taken by APNT to authorize the execution, delivery and performance of this Agreement, the Transaction Documents and all other agreements and instruments delivered by APNT in connection with the Transactions have been duly and validly taken. Each of this Agreement and the Transaction Documents to which APNT is a party has been, or on the Closing Date will be, duly executed and delivered by APNT and constitutes the valid, binding, and enforceable obligation of APNT, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

SECTION 7.4 *Subsidiaries or Equity Interests*. Section 7.4 of the APNT Disclosure Schedule lists all Subsidiaries of APNT and indicates as to each the type of entity and its jurisdiction of organization. Except as set forth in Section 7.4 of the APNT Disclosure Schedule, APNT does not directly or indirectly own any other equity or similar interest in or any interest convertible or exchangeable or exercisable for, any equity or similar interest in, any corporation, partnership, joint venture or other business association or entity. Except as set forth in Section 7.4 of the APNT Disclosure Schedule, APNT is the direct, indirect or beneficial owner of all registered capital or outstanding shares of capital stock (as applicable) of its Subsidiaries, and all such registered capital and shares are duly authorized, validly issued, fully paid and nonassessable and are owned by APNT free and clear of all Liens (except for clause (a) of the definition of Permitted Liens). Except as set forth in Section 7.4 of the APNT Disclosure Schedule, there are no outstanding subscriptions, options, warrants, puts, calls, rights, exchangeable or convertible securities or other commitments or agreements of any character relating to the issued or unissued capital stock or other securities of any Subsidiaries of APNT or otherwise obligating any Subsidiaries of APNT to issue, transfer, sell, purchase, redeem or otherwise acquire any such securities.

SECTION 7.5 *No Conflicts*. The execution and delivery of this Agreement or any of the Transaction Documents by APNT and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon any of the assets and properties of the APNT Parties, under, any provision of any (i) any APNT Constituent Instrument; (ii) any APNT Material Contract (as defined in Section 7.20 herein) to which any APNT Party is a party or to or by which it (or any of its assets and properties) is subject or bound; or (iii) any material Permit of the APNT Parties; (b) subject to the filings and other matters referred to in Section 7.6, conflict with or violate in any material respect any Judgment or Legal Requirement applicable to an APNT Party, or its properties or assets; (c) terminate or modify, or give any third party the right to terminate or modify, the provisions or terms of any APNT Material Contract or any Research Contract to which an APNT Party is a party or by which any of them is bound; or (d) cause any of the assets owned by an APNT Party to be reassessed or revalued in any material respect by any Governmental Authority.

SECTION 7.6 *Consents and Approvals*. No material Consent of, or material registration, declaration or filing with, or permit from, any Governmental Authority is required to be obtained or made by or with respect to an APNT Party in connection with the execution, delivery and performance of this Agreement or the consummation of the Transactions, other than (i) the filing of the Certificate of Redomestication Merger with the Secretary of State of Texas and the filing of Certificate of Merger with the Secretary of State of Delaware as provided in Section 1.2; (ii) the filings in connection with Nano Merger as provided in Section 2.2; (iii) the filing with, and clearance by the SEC of the preliminary proxy statement, which shall serve as a proxy statement pursuant to Section 14(a), Regulation 14A and Schedule 14A under the Exchange Act, and all other proxy materials for the Stockholders Meeting (as defined below) (the "**Proxy Statement**") pursuant to which APNT's stockholders must vote at a special meeting of stockholders to approve, among other thing, this Agreement and the Transactions; (iv) the filing of a Form 8-K with the SEC within four (4) business days after the execution of this Agreement and of the Closing Date; and (v) any filing required by FINRA.

SECTION 7.7 *SEC Documents; Financial Statements*.

(a) APNT has delivered or made available to Nano accurate and complete copies of all registration statements, proxy statements, Certifications (as defined below) and other statements, reports, schedules, forms and other documents filed by APNT with the SEC since May 15, 1996 (the "**APNT SEC Documents**"), other than those documents available on the SEC's website at www.sec.gov. Except as set forth on Section 7.7 of the APNT Disclosure Schedule, all material statements, reports, schedules, forms and other documents required to have been filed by APNT or its officers with the SEC have been so filed on a timely basis. As of the time it was filed with the SEC (or, if amended or superseded by a filing prior to the date of this Agreement, then on the date of such filing), each of the APNT SEC Documents complied in all material respects with the applicable requirements of the Securities Act or the Exchange Act (as the case may be) and, to APNT's Knowledge, as of the time they were filed, none of the APNT SEC Documents contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The certifications and statements required by (A) Rule 13a-14 under the Exchange Act and (B) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the APNT SEC Documents (collectively, the "**Certifications**") are accurate and complete and comply as to form and content with all applicable Legal Requirements. As used in this Section 7.7, the term "file" and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) The consolidated financial statements (including any related notes) contained or incorporated by reference in the APNT SEC Documents (the "**APNT Financial Statements**"): (i) complied as to form in all material respects with the published rules and regulations of the SEC applicable thereto; (ii) were prepared in accordance with GAAP (except as may be indicated in the notes to such financial statements or, in the case of unaudited financial statements, as permitted by Form 10-Q of the SEC, and except that the unaudited financial statements may not contain footnotes and are subject to normal and recurring year-end adjustments that are not reasonably expected to be material in amount) applied on a consistent basis unless otherwise noted therein throughout the periods indicated; and (iii) fairly present the consolidated financial position of the APNT Parties as of the respective dates thereof and the consolidated results of operations and cash flows of the APNT Parties for the periods covered thereby.

(c) APNT's auditor has at all times since March 1, 2012 been: (i) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act); (ii) to the Knowledge of APNT, "independent" with respect to APNT within the meaning of Regulation S-X under the Exchange Act; and (iii) to the Knowledge of APNT, in compliance with subsections (g) through (l) of Section 10A of the Exchange Act and the rules and regulations promulgated by the SEC and the Public Company Accounting Oversight Board thereunder.

SECTION 7.8 *Internal Accounting Controls*. Since January 1, 2007, APNT has maintained a system of internal accounting controls sufficient to provide reasonable assurance that (a) transactions are executed in accordance with management's general or specific authorizations, (b) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability, (c) access to assets is permitted only in accordance with management's general or specific authorization, and (d) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. APNT's officers have established disclosure controls and procedures for APNT and designed such disclosure controls and procedures to ensure that material information relating to APNT is made known to the officers by others within those entities. APNT's officers have evaluated the effectiveness of APNT's controls and procedures and there is no material weakness, significant deficiency or control deficiency, in each case as such term is defined in Public Company Accounting Oversight Board Auditing Std. No. 2.

SECTION 7.9

Absence of Certain Changes or Events. From September 30, 2013 to the date of this Agreement, there has not been:

(a) any event, situation or effect (whether or not covered by insurance) that has resulted in, or to APNT's Knowledge, is reasonably likely to result in, a Material Adverse Effect on the APNT Parties;

(b) any change to, or amendment or waiver of a material term of, a material Contract by which any APNT Party or any of its respective assets is bound or subject except as set forth in Section 7.9(b) of the APNT Disclosure Schedule;

(c) any mortgage, pledge, transfer of a security interest in, or Lien, created by any APNT Party or to which any of the APNT Parties' properties, assets or rights is subject, with respect to any of their material properties, assets or rights, except for Permitted Liens;

(d) any payments, loans or guarantees made by any APNT Party to or for the benefit of its officers or directors, or any members of their immediate families, or any material payments loans or guarantees made by any APNT Party to or for the benefit of any of its employees or any members of their immediate families, in each case, other than ordinary course compensation and benefits in accordance with compensation arrangements previously disclosed to Nano or included in any APNT SEC Documents and reimbursement of expenses.

(e) any change of the identity of its auditors or material alteration of APNT's method of accounting or accounting practice;

(f) any declaration, accrual, set aside or payment of dividend or any other distribution of cash or other property in respect of any shares of APNT's capital stock or any purchase, redemption or agreements to purchase or redeem by APNT of any shares of capital stock or other securities;

(g) any issuance of equity securities to any officer, director or affiliate, except pursuant to existing APNT stock option plans;

(h) any amendment to any APNT Constituent Instruments;

(i) any material Tax election by APNT, any change in accounting method in respect of Taxes, any amendment to any Tax Returns, entry into any closing or equivalent agreement, any settlement of any claim or assessment in respect of Taxes, or any consent to any waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(j) any commencement or settlement of any material Actions by the APNT Parties;

(k) any granting by APNT or its Subsidiaries of any increases in compensation or fringe benefits, or any payment by any APNT Party of any bonuses, or any granting by any APNT Party of any increases in severance or termination pay or any entry by an APNT Party into any currently effective employment, severance, termination or indemnification agreement the benefits of which are contingent, or the terms of which are altered, upon the occurrence of a transaction involving an APNT Party as contemplated by this Agreement;

(k) any transfer, license or encumbrance to any Person of any APNT Intellectual Property Rights;

(l) other than in the ordinary course of business, any sale, lease, license or other disposal of or encumbrance of any of its tangible properties or tangible assets;

(m) any payment, discharge, or satisfaction in an amount in excess of \$5,000 of any single claim (or series of related claims), liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) arising other than the payment, discharge or satisfaction of liabilities reflected or reserved against in the APNT Financial Statements or incurred in the ordinary course of business;

(n) any capital expenditures, capital additions or capital improvements, except in the ordinary course of business, that exceed \$5,000 individually or in the aggregate;

(o) any opening or closing of any significant facility or office;

(p) any material revaluation by an APNT Party of any of its assets, including, without limitation, writing down the value of a material amount of capitalized inventory or writing off a material amount of notes or accounts receivable;

(q) any material damage, destruction or loss to, or any material interruption in the use of, any of the assets of any APNT Party (whether or not covered by insurance);

(r) any sale, issuance or grant, or authorization of the issuance of equity securities of any APNT Party, except for the issuance of common stock pursuant to previously existing convertible notes or accounts payable as set forth in Section 7.1(c) of the APNT Disclosure Schedule as well as issuances of shares of common stock for awards made prior to the date of this Agreement under the equity compensation plans as set forth in Section 7.24 of the APNT Disclosure Schedule;

(s) any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction involving any APNT Party;

(t) any creation of any Subsidiary of any of the APNT Parties or acquisition by any APNT Party of any assets (other than in the ordinary course of business), equity interest or other interest in any other Person; or

(u) any negotiations, arrangement or commitment by any APNT Party to take any of the actions described in this Section 7.9 except as set forth in Section 7.9(b) of the APNT Disclosure Schedule.

SECTION 7.10 *Undisclosed Liabilities*. The APNT Parties have no material liabilities or obligations of any nature (whether matured or unmatured, fixed or contingent, known or unknown) other than those (a) set forth on or adequately provided for in the balance sheet of APNT as of September 30, 2013, (b) estimated to the best of APNT's Knowledge in Section 7.10 of the APNT Disclosure Schedule; , (c) incurred since the date of such balance sheet that are incurred in the ordinary course of business and (d) those incurred in connection with the negotiation, execution, delivery and performance of this Agreement.

SECTION 7.11 *Litigation*. Except as set forth in Section 7.11 of the APNT Disclosure Schedule, as of the date of this Agreement, there is no Action pending or threatened in writing against any of the APNT Parties, any of their respective officers or directors (in their capacities as such) or any of their respective properties before or by any Governmental Authority which (a) adversely affects or challenges the legality, validity or enforceability of this Agreement or (b) if there were an unfavorable decision, individually or in the aggregate, has had or would reasonably be expected to result in a change to a Research Contract, a claim of breach or default under a Research Contract or former Research Contract, or a Material Adverse Effect on any APNT Party. Except as set forth Section 7.11 of the APNT Disclosure Schedule, there is no Judgment imposed upon any APNT Party, any of their respective officers or directors (in their capacities as such) or any of their respective properties. No APNT Party, nor any director or officer thereof (in his or her capacity as such), is or has been the subject of any Action involving a material claim or material violation of or material liability under the securities laws of any Governmental Authority or a claim of breach of fiduciary duty.

SECTION 7.12 *Compliance with Applicable Laws*. To the Knowledge of APNT, the APNT Parties are in compliance with all applicable Legal Requirements, except for instances of noncompliance that, individually and in the aggregate, have not had and would not reasonably be expected to have a Material Adverse Effect on any APNT Party. Since December 31, 2012 APNT has not received any written communication, and to the knowledge of APNT, APNT has not received any written communication since its incorporation from a Governmental Authority alleging that the APNT Parties are not in compliance in any material respect with any applicable Legal Requirement. This Section 7.12 does not relate to matters with respect to Taxes, which are the subject of Section 7.21. It also does not relate to matters with respect to: SEC Documents (which is the subject of Section 7.7) and Sarbanes-Oxley (which is the subject of Section 7.13).

SECTION 7.13 *Sarbanes-Oxley Act of 2002*. APNT is in material compliance with all provisions of the Sarbanes-Oxley Act of 2002 (the "**Sarbanes-Oxley Act**") applicable to it as of the date hereof and as of the Closing. There has been no change in APNT's accounting policies except as described in the notes to the most recent APNT financial statements contained in the APNT SEC Documents. Each required form, report and document containing financial statements that has been filed with or submitted to the SEC since inception, was accompanied by the certifications required to be filed or submitted by APNT's principal executive officer and chief financial officer pursuant to the Sarbanes-Oxley Act, and at the time of filing or submission of each such certification, such certification was true and accurate and materially complied with the Sarbanes-Oxley Act and the rules and regulations promulgated thereunder. Neither APNT, nor to the Knowledge of APNT, any Representative of APNT, has received or otherwise had or obtained knowledge of any complaint, allegation, assertion or claim, whether written or oral, regarding the accounting or auditing practices, procedures, methodologies or methods of APNT or their respective internal accounting controls, including any complaint, allegation, assertion or claim that APNT has engaged in questionable accounting or auditing practices, except for (a) any complaint, allegation, assertion or claim as has been resolved without any resulting change to APNT's accounting or auditing practices, procedures methodologies or methods of APNT or its internal accounting controls, and (b) questions regarding such matters raised and resolved in the ordinary course in connection with the preparation and review of APNT's financial statements and periodic reports. To the Knowledge of APNT, no attorney representing APNT, whether or not employed by APNT, has reported evidence of a material violation of securities laws, breach of fiduciary duty or similar violation by APNT or any of its officers, directors, employees or agents to the APNT Board or any committee thereof or to any director or officer of APNT. To the Knowledge of APNT, no director or officer of APNT has provided or is providing information to any law enforcement agency regarding the commission or possible commission of any crime or the violation or possible violation of any applicable law.

SECTION 7.14 *Broker's and Finders' Fees*. APNT has not incurred, nor will it incur, directly or indirectly, any liability for brokerage or finders' fees or agents' commissions or investment bankers' fees or any similar charges in connection with this Agreement or any Transaction.

SECTION 7.15 *Minute Books*. The minute books of the APNT Parties made available to Nano contain in all material respects a complete and accurate summary of all meetings of directors and stockholders or actions by written consent of the APNT Parties since 1989, and reflect all transactions referred to in such minutes accurately in all material respects.

SECTION 7.16 *Board Approval*. The APNT Board (including any required committee or subgroup of such board) has (i) adopted resolutions approving the Redomestication Merger and the Nano Merger, and declared the advisability of and approved this Agreement and the Transactions, and (ii) determined that the Transactions are in the best interests of the stockholders of APNT.

SECTION 7.17 *Required Vote*. The approval of the board of directors of APNT and the affirmative vote (the "**APNT Stockholder Approval**") of the holders of a majority of the shares of APNT Common Stock having voting power representing a majority of the outstanding and issued Common Stock is the only vote of the holders of any class or series of APNT's capital stock necessary to approve the Redomestication Merger and the Transactions (the "**Required APNT Stockholder Vote**").

SECTION 7.18 *OTC Markets*. The Common Stock is quoted in the over-the-counter markets on the OTCQB Tier of the OTC Markets under the symbol "APNT". There is no Action or proceeding pending or, to the Knowledge of APNT, threatened against APNT by FINRA, or any other regulatory or self-regulatory organization or the staff thereof relating to any intention by such entities to prohibit or terminate the quotation of APNT Common Stock on the OTCQB tier of the OTC Markets.

SECTION 7.19 *Transactions With Affiliates and Employees*. None of the officers or directors of any APNT Party and none of the stockholders of APNT is presently a party, directly or indirectly, to any transaction with any APNT Party that is required to be disclosed under Rule 404(a) of Regulation S-K (other than for services as employees, officers and directors), including any Contract providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director, or, to the Knowledge of APNT, any entity in which any officer or director has a substantial interest or is an officer, director, partner or other equity holder.

SECTION 7.20 *Material Contracts and Transaction Documents*. Section 7.20 of the APNT Disclosure Schedule sets forth any Contracts (including Research Contracts) to which any APNT Party is a party or to which its assets are subject that would be considered a material contract pursuant to Item 601(b)(10) of Regulation S-K or pursuant to which any APNT Party receives or pays amounts in excess of \$50,000 (each an "**APNT Material Contract**"). APNT has made available to Nano, prior to the date of this Agreement, true, correct and complete copies of each Contract described in clause (a) (except to the extent such APNT Material Contract is otherwise available via the SEC's Edgar website) and each Research Contract. No APNT Party is in violation of or in default under (nor does there exist any condition which upon the passage of time or the giving of notice or both would cause such a violation of or default under) any Contract to which any of them is a party or by which it or any of their properties or assets is bound, except for violations or defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect on any APNT Party. To the Knowledge of APNT, no other Person has materially violated or breached, or committed or suffered any material default under, any APNT Material Contract.

SECTION 7.21 *Taxes.*

(a) APNT has timely filed, or has caused to be timely filed on behalf of each APNT Party, all Tax Returns relating to Taxes determined by reference to income, earnings, or revenues and all other material Tax Returns that are or were required to be filed by or with respect to any APNT Party, either separately or as a member of group of corporations, pursuant to applicable Legal Requirements, with the exception of its 2012 Federal Income Tax Return which was filed approximately December 3, 2013. All Tax Returns filed by (or that include on a consolidated basis) an APNT Party were (and, as to a Tax Return not filed as of the date hereof, will be) in all material respects true, complete and accurate. All material Taxes due and payable by any APNT Party have been paid in compliance with applicable Legal Requirements. There are no unpaid material Taxes of any APNT Party claimed to be due, or, to the Knowledge of APNT, otherwise claimed, by any Governmental Authority in charge of taxation of any jurisdiction, nor any claim in writing or, to the Knowledge of APNT, any other claim, for additional material Taxes from any APNT Party for any period for which Tax Returns have been filed.

(b) Section 7.21(b) of the APNT Disclosure Schedule lists all the relevant Governmental Authorities in charge of taxation in which Tax Returns are filed with respect to the APNT Parties, and indicates those Tax Returns that have been audited or that are currently the subject of an audit since December 31, 2007. APNT has not received any notice in writing, or, to the Knowledge of APNT, any other notice, that any Governmental Authority will audit or examine (except for any general audits or examinations routinely performed by such Governmental Authorities), seek information with respect to, or make material claims or assessments with respect to any Taxes for any period. APNT has delivered or made available to Nano correct and complete copies of all Tax Returns, correspondence with Governmental Authorities regarding Taxes, examination reports, and statements of deficiencies filed by, assessed against or agreed to by the APNT Parties, for and during fiscal years 2011 and 2012.

(c) The financial statements contained in APNT's annual report on Form 10-K for the year ended December 31, 2013 reflect a materially adequate reserve for all Taxes payable by APNT (in addition to any reserve for deferred Taxes to reflect timing differences between book and Tax items) for all taxable periods and portions thereof through the date of such financial statements. APNT is neither a party to nor bound by any Tax indemnity, Tax sharing or similar agreement and APNT currently has no liability and will not have any liabilities for any Taxes of any other Person under any agreement or by the operation of any law. No deficiency with respect to any Taxes has been proposed, asserted or assessed against APNT, and no requests for waivers of the time to assess any such Taxes are pending.

(d) APNT has not requested any extension of time within which to file any Tax Return, which Tax Return has not since been filed. APNT has not executed any outstanding waivers or comparable consents regarding the application of the statute of limitations with respect to any Taxes or Tax Returns. No power of attorney currently in force has been granted by APNT concerning any Taxes or Tax Return.

(e) APNT does not own nor has ever owned any United States real property interests as described in Section 897 of the Code.

(f) APNT has withheld and remitted to the appropriate Governmental Authority in compliance with all Legal Requirements all Taxes required to be withheld and remitted by APNT in connection with payments made to other persons.

SECTION 7.22 *Permits.* Section 7.22 of the APNT Disclosure Schedule identifies all material Permits of each APNT Party which are necessary to conduct their business as currently conducted. All such material Permits are in full force and effect. Except as set forth in Section 7.22 of the APNT Disclosure Schedule, each APNT Party has complied with all terms of such material Permits in all material respects. Except as set forth in Section 7.22 of the APNT Disclosure Schedule, no APNT Party is in material default under any of such material Permits, and to the Knowledge of APNT, no event has occurred and no condition exists which, with the giving of notice or the passage of time, or both, would constitute a default thereunder.

SECTION 7.23 *Properties.* Section 7.23(a) of the APNT Disclosure Schedule contains an accurate and complete list of all leases under which the APNT Parties have a right to use or occupy real property (the “***Real Estate Leases***”). None of the APNT Parties is in material default under any of the Real Estate Leases, and to the Knowledge of APNT, there is no material default by any of the lessors thereunder. No APNT Party owns any real property.

SECTION 7.24 *Employment Matters.*

(a) ***Benefit Plans.*** Except as set forth in Section 7.24 of the APNT Disclosure Schedule, no APNT Party has or maintains any bonus, pension, profit sharing, deferred compensation, incentive compensation, stock ownership, stock purchase, stock option, phantom stock, retirement, vacation, severance, disability, death benefit, hospitalization, medical or other plan, arrangement or understanding (whether or not legally binding) providing benefits to any current or former employee, officer or director of any APNT Party. Except as set forth in Section 7.24 of the APNT Disclosure Schedule, neither the execution and delivery of this Agreement nor the consummation of the Transactions will (either alone or in conjunction with any other event) result in, cause the accelerated vesting or delivery of, or increase the amount or value of, any payment or benefit to any employee of any APNT Party. Except as set forth in Section 7.24 of the APNT Disclosure Schedule, there are no (i) severance or termination agreements or arrangements currently in effect between any APNT Party and any of its current or former employees, officers or directors, or (ii) any severance plan or policy in effect on the date of this Agreement for employees, officers or directors of any APNT Party.

(b) ***Labor Matters.*** (i) there are no collective bargaining or other labor union agreements to which any APNT Party is a party or by which any of them are bound; (ii) no material labor dispute exists or, to the Knowledge of APNT, is threatened with respect to any of the employees of any APNT Party; (iii) no complaint, charge or Actions by or before any Governmental Authority brought by or on behalf of any employee, prospective employee, former employee, retiree, labor organization or other representative of its employees is pending or, to APNT’s Knowledge, threatened against any APNT Party; and (iii) no APNT Party is a party to, or otherwise bound by, any consent decree with, or to the Knowledge of Nano, citation by, any Governmental Authorities relating to employees or employment practices.

(c) ***Officers.*** As of the date of this Agreement, except as contemplated by this Agreement, no officer of any APNT Party has given notice in writing that such officer intends to leave or otherwise terminate such officer’s employment in connection with the consummation of the Transactions or following the Closing Date.

SECTION 7.25 *OFAC.* No APNT Party, no director or officer of any of them, or, to the Knowledge of APNT, any agent, employee, affiliate or Person acting on behalf of an APNT Party is currently identified on the specially designated nationals or other blocked person list or otherwise currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“***OFAC***”); and the APNT Parties have not, directly or indirectly, used any funds, or loaned, contributed or otherwise made available such funds to any Subsidiary, joint venture partner or other Person, in connection with any sales or operations in Cuba, Iran, Syria, Sudan, Myanmar or any other country sanctioned by OFAC or for the purpose of financing the activities of any Person currently subject to, or otherwise in violation of, any U.S. sanctions administered by OFAC.

SECTION 7.26 *Environmental Matters*. To the Knowledge of the APNT, each of the APNT Parties is in and at all times has been in substantial compliance with, and has not been and is not in material violation of or subject to any material liability under, any Environmental Law. Except as set forth in Section 7.26 of the APNT Disclosure Schedule, no Action or proceeding involving any APNT Party with respect to any Environmental Law is pending or, to APNT's Knowledge, is threatened.

SECTION 7.27 *Restrictions on Business Activities*. Except as set forth in Section 7.27 of the APNT Disclosure Schedule, there is no agreement, commitment, judgment, injunction, order or decree binding upon any APNT Party or their respective assets or to which any of them is a party which restricts the scope of business in which they may engage.

SECTION 7.28 *Investment Company*. No APNT Party is an "investment company" or an entity "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the SEC thereunder.

SECTION 7.29 *Insurance*. The insurance policies maintained for the benefit of the APNT Parties are identified in Section 7.29 Of the APNT Disclosure Schedule.

SECTION 7.30 *Intellectual Property*.

A. APNT has provided to Nano in the data room a complete list of all active patents, patent applications, and provisional patent applications, (collectively, "Patents") owned by any of the APNT Parties ("APNT Patents").

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own all rights in the APNT Patents, free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to third parties, or
- d. Security interests, mortgages or liens.

ii. No entity other than the APNT Parties has any rights granted by APNT (either current or contingent) to use, make, sell or practice, the inventions protected by any APNT Patents. No employee retains any right to use, make, sell or practice any invention protected by an APNT Patent, and to the Knowledge of the APNT Parties no consultant to APNT retains any such rights.

iii. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the APNT Parties has received any communications from another Person alleging that any APNT Patents are invalid or unenforceable, and APNT has no Knowledge of any basis for another Person to allege that any APNT Patents are invalid or unenforceable.

iv. All APNT Patents which are issued or pending before, as applicable, the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, are currently in compliance with formalities and legal requirements necessary to maintain them as currently valid (including without limitation as applicable, the payment of all necessary fees, including without limitation, filing, examination, annuity, maintenance or other fees, and the filing of all necessary documents or statements, including without limitation, necessary proofs of working or use, or other items or documents necessary to maintain such APNT Patents as currently valid).

v. APNT has not licensed Patents from any other Person.

B. APNT has provided to Nano in the data room a complete list of all registered trademarks and service marks, and related applications for registration (collectively, “**Marks**”) which are currently owned or used by any APNT Party (“**APNT Marks**”).

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own and hold all rights in the APNT Marks free and clear of all:

- a. License agreements,
- b. Restrictions on further licensing,
- c. Obligations to make payments to other Persons, or
- d. Security interests, mortgages, or liens.

ii. No other entity has been granted any rights, either current or contingent, to use any APNT Marks.

iii. All APNT Marks which are registered with, as applicable, the U.S. Patent and Trademark Office or any similar office or agency anywhere in the world, are currently in compliance with all formalities and legal requirements necessary to maintain them as currently valid (including, without limitation as applicable, the payment of filing, examination, use, renewal and other fees and timely compliance with post filing requirements including, as applicable, affidavits of use and incontestability, renewals and evidence of use, and all other items to maintain such APNT Marks as currently valid).

iv. Except for office actions issued by the U.S. Patent and Trademark Office or a similar office or agency anywhere in the world, none of the APNT Parties has received any communications from another Person alleging that any APNT Marks are invalid or unenforceable, and APNT has no Knowledge of any basis for another Person to allege that any APNT Marks are invalid or unenforceable.

C. APNT has provided to Nano in the data room a complete and accurate list of all software code that the APNT Parties have developed in connection with (y) gas sensing methods, gas analysis methods, or other material components of the gas sensing product, and (z) any material manufacturing processes, material or product performance testing or any products or materials under development by an APNT Party (“APNT Copyrights”).

Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. the APNT Parties exclusively own all of the APNT Copyrights free and clear of all:

- a. License agreements,
- b. Restrictions on use, copying or distribution, or
- c. Security interests, mortgages or liens.

ii. No entity other than the APNT Parties has any right to use, publish, transfer, copy, distribute, or commercially exploit, either current or contingent, any APNT Copyrights.

iii. No APNT Party has received any communications from another Person alleging that any APNT Copyrights are invalid, unenforceable or subject to any claim of any other entity, and APNT has no Knowledge of any basis to allege that any APNT Copyrights are invalid, unenforceable or subject to a claim by any other entity.

D. Except as disclosed to Nano in the section of the data room relating to intellectual property, to the Knowledge of APNT, no entity, or has or is, infringing upon any APNT Patents, and no entity is violating the rights of any APNT Party with respect to APNT Marks, APNT Copyrights or any other APNT proprietary rights.

E. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. To the Knowledge of APNT there is not nor has there been, any violation of any agreements that currently or previously authorized any other entity to use or practice rights under any APNT Patents,

ii. To the Knowledge of APNT, no entity that has been licensed any rights to use or practice rights under any APNT Patents, has any basis to:

a. Claim against any APNT Party any violation of any agreement which granted the entity such rights or

b. Cease payment or reduce the amount of payments to any APNT Party under the agreement under which such rights were granted.

iii. To the Knowledge of APNT no other entity has a right to claim any interest, whether ownership, license rights or otherwise, in any technology that may be developed by APNT and/or its subsidiaries after the date of this Agreement.

F. Except as disclosed to Nano in the section of the data room relating to intellectual property, to the Knowledge of APNT all former and current employees, consultants, contractors, agents, research partners, independent developers, and other sources of or contributors to APNT Patents, and/or APNT Copyrights, has executed and delivered valid written instruments that assign or otherwise vest in APNT or its subsidiaries, all rights in and to such APNT Patents and/or APNT Copyrights that were developed, authored, conceived or reduced to practice by them in the course of performing services for or other activities related to, APNT and/or its subsidiaries.

G. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. To the Knowledge of APNT, there are no pending or threatened claims against APNT and/or any of its subsidiaries, licensees, suppliers, agents, employees, or officers, alleging that the use any, APNT Marks, or APNT Copyrights, directly or indirectly infringes, violates, misappropriates, or conflicts with the rights associated with any patents, trademarks, copyrights, trade secrets, or other proprietary rights owned by others (“**Third Party Rights**”).

ii. To the Knowledge of APNT, there are no pending or threatened or claims against APNT or any of its subsidiaries, licensees, suppliers, agents, employees, or officers, alleging that any activities or events that have occurred, that are currently occurring, or that are planned to occur, in connection with the actions or activities of APNT and/or its subsidiaries, infringes any Third Party Rights.

iii. No APNT Party has received any communication alleging, that any APNT Party, in carrying out past or current activities or in carrying out any activities that are currently planned in the future, has or will, directly or indirectly, infringe, misappropriate or violate any Third Party Rights.

iv. No APNT Party has violated any agreement that authorizes an APNT Party to use or practice any Third Party Rights.

H. Except as disclosed to Nano in the section of the data room relating to intellectual property,

i. All software programs currently used in the activities of APNT and/or its subsidiaries, (other than APNT Copyrights discussed above) (“**Third Party Software**”) are commercially available software products that can be obtained publicly from commercial sources at the present time.

ii. No licenses or rights to use such Third Party Software will be adversely impacted by a change in control of APNT and/or its subsidiaries.

iii. No fees, charges or other compensation will need to be paid by any third party upon a change in control of APNT and/or its subsidiaries for the right to continue to use such Third Party Software.

ARTICLE VIII **Conduct Prior to the Closing**

SECTION 8.1 *Covenants of Nano*. During the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, Nano will use commercially reasonable efforts to, cause each of the Nano Entities to (except to the extent expressly contemplated by this Agreement or as consented to in writing by the other Parties), (i) carry on its business in the ordinary course in substantially the same manner as heretofore conducted and in compliance in all material respects with all applicable Legal Requirements, to pay debts and Taxes when due (subject to good faith disputes over such debts or Taxes), to pay or perform other obligations when due, and to use commercially reasonable efforts to preserve intact its present business organizations, and (ii) use commercially reasonable efforts to keep available the services of its present officers, directors and employees and to preserve its relationship with customers, suppliers, distributors, licensors, licensees, and others having business dealings with it. Without limiting the generality of the foregoing, during the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, except as listed on Section 8.1 of the Nano Disclosure Schedule or as otherwise expressly permitted by or provided for in this Agreement, Nano will not, allow, cause or permit any of the following actions to occur with respect to any of the Nano Entities without the prior written consent of APNT, which shall not be unreasonably delayed or withheld:

(a) *Charter Documents*. Cause or permit any amendments to any of the Nano Constituent Instruments or any other equivalent organizational documents, except as contemplated by this Agreement;

(b) *Accounting Policies and Procedures*. Change any method of accounting or accounting principles or practices by the Nano Entities, except for any such change required by any Legal Requirement or by a change in U.S. GAAP;

(c) *Dividends; Changes in Capital Stock*. Declare or pay any dividends on or make any other distributions (whether in cash, stock or property) in respect of any of its capital stock, or split, combine or reclassify any of its capital stock or issue or authorize the issuance of any securities in respect of, in lieu of or in substitution for shares of its capital stock, or repurchase or otherwise acquire, directly or indirectly, any shares of its capital stock;

(d) *Material Contracts*. Enter into any new Material Contract, or violate, amend or otherwise modify or waive any of the terms of any existing Material Contract;

(e) *Issuance of Securities*. Except pursuant to the Bridge Financing, issue, deliver or sell or authorize or propose the issuance, delivery or sale of, or purchase or propose the purchase of, any shares or capital equity or securities convertible into or exchangeable for, or subscriptions, rights, warrants or options to acquire, or other agreements or commitments of any character obligating it to issue any such units or other convertible or exchangeable securities; or otherwise pledge or encumber any securities of any Nano Entity;

(f) *Intellectual Property*. Transfer, license to any Person or entity any Nano Intellectual Property Rights or enter into any agreement, or violate, amend or otherwise modify or waive any of the terms of any agreements related to any Nano Intellectual Property Rights;

(g) *Dispositions*. Sell, lease (other than in the ordinary course of business), license or otherwise dispose of or encumber any of its tangible properties or tangible assets which are material, individually or in the aggregate, to its business;

(h) *Indebtedness*. Issue or sell any debt securities or guarantee any debt securities of others, or incur any indebtedness for borrowed money other than the Bridge Financing or mortgage, pledge or grant a security interest or other lien or encumbrance in any material asset of any Nano Entity;

(i) *Payment of Obligations*. Pay, discharge or satisfy in an amount in excess of \$5,000 any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) other than (i) in the ordinary course of business, (ii) the payment, discharge or satisfaction of liabilities reflected or reserved against in the Nano Financial Statements for the quarter ended September 30, 2013, or (iii) the payment, discharge or satisfaction of liabilities incurred in connection with the Transactions;

(j) *Capital Expenditures*. Make any capital expenditures, capital additions or capital improvements except in the ordinary course of business that do not exceed \$5,000 individually or in the aggregate;

(k) *Acquisitions*. Acquire by merging or consolidating with, or by purchasing a substantial portion of the assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof, or otherwise acquire any assets which are material, individually or in the aggregate, to its business, or acquire any equity securities of any corporation, partnership, association or business organization;

(l) *Employment*. Except as required to comply with Legal Requirements or pursuant to plans, agreements or arrangements existing on the date hereof, (i) take any action with respect to, adopt, enter into, terminate or amend any employment, severance, retirement, retention, incentive or similar agreement, arrangement or benefit plan for the benefit or welfare of any current or former director or officer or any collective bargaining agreement, (ii) increase any compensation or fringe benefits of, or pay any bonus to, any director, officer or other employee of any Nano Entity, (iii) amend or accelerate the payment, right to payment or vesting of any compensation or benefits, (iv) pay any benefit not provided for as of the date of this Agreement under any benefit plan, or (v) grant any awards under any bonus, incentive, performance or other compensation plan or arrangement or benefit plan, including the grant of stock options, stock appreciation rights, stock based or stock related awards, performance units or restricted stock, or the removal of existing restrictions in any benefit plans or agreements or awards made thereunder;

(m) *Facility*. Open or close any facility or office except in the ordinary course of business;

(n) *Taxes*. Make or change any material election in respect of Taxes, adopt or change any accounting method in respect of Taxes, file any Tax Return or any amendment to a Tax Return, enter into any closing or equivalent agreement, settle any claim or assessment in respect of Taxes, or consent to any extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(o) *Litigation*. Initiate compromise or settle any litigation or arbitration proceedings relating to an amount in excess of \$5,000;

(p) *Loans*. Make any loans, advances or capital contributions, except advances for travel and other normal business expenses to officers and employees in accordance with policies and procedures in effect on the date hereof;

(q) *Payments to Affiliates*. Make any payments or series of related payments (other than ordinary compensation and benefits) to any of its officers, directors, employees, shareholders or other equity interest holders, except as required pursuant to any binding agreement with any such officer, director, employee, shareholder or other equity holder in effect as of the date of this Agreement and disclosed in the Nano Disclosure Schedule;

(r) *Affiliated Transactions*. Enter into any Contract, arrangement or other transaction with any Affiliate of any Nano Entity except in connection with the Transactions contemplated by this Agreement; and

(s) *Other*. Agree in writing or otherwise to take any of the foregoing actions.

SECTION 8.2 *Covenants of APNT*. Except as set forth in Section 8.2 of the APNT Disclosure Schedule or as otherwise agreed to among the Parties, from the date hereof until the earlier of the termination of this Agreement or the Closing Date, APNT agrees to, and to cause its Subsidiaries (except to the extent expressly contemplated by this Agreement or as consented to in writing by Nano), to (i) carry on its business in the ordinary course within the financial parameters set forth in the operating budget that has been mutually approved by APNT and Nano (the “**APNT Operating Budget**”), to pay debts and other amounts as set forth in the APNT Operating Budget and to use commercially reasonable efforts to preserve intact its present business organizations within the financial parameters set forth in the APNT Operating Budget and (ii) use commercially reasonable efforts to keep available the services of its current officers, directors and employees and to preserve its relationships with others having business dealings with it. Without limiting the generality of the foregoing, during the period from the date of this Agreement and continuing until the earlier of the termination of this Agreement or the Closing Date, except as listed on Section 8.2 of the APNT Disclosure Schedule or as otherwise expressly permitted by or provided for in this Agreement, the APNT Parties shall not do, allow, cause or permit any of the following actions to occur without the prior written consent of Nano, which consent shall not be unreasonably delayed or withheld:

(a) *Charter Documents*. Adopt or propose any change in any of their constituent instruments except for such amendments required by any Legal Requirement or the rules and regulations of the SEC or as are contemplated by this Agreement.

(b) *Accounting Policies and Procedures*. Change any method of accounting or accounting principles or practices by APNT, except for any such change required by any Legal Requirement or by a change in U.S. GAAP;

(c) *SEC Reports*. Fail to timely file or furnish to or with the SEC all reports, schedules, forms, statements and other documents required to be filed or furnished by APNT (except those filings by affiliates of APNT required under Section 13(d) or 16(a) of the Exchange Act);

(d) *Dividends; Changes in Capital Stock.* Declare or pay any dividends on or make any other distributions (whether in cash, stock or property) in respect of any of its capital stock, or split, combine or reclassify any of its capital stock or issue or authorize the issuance of any other securities in respect of, in lieu of or in substitution for shares of its capital stock, or repurchase or otherwise acquire, directly or indirectly, any shares of its capital stock;

(e) *Dispositions.* Sell, lease, license or otherwise dispose of or encumber any properties or material assets;

(f) *Material Contracts.* Enter into any new APNT Material Contract, or violate, amend or otherwise modify or waive any of the terms of any existing APNT Material Contract;

(g) *Issuance of Securities.* Except as a result of agreements and commitments entered into prior to the date of this Agreement and identified in the APNT Disclosure Schedule, issue, deliver or sell or authorize or propose the issuance, delivery or sale of, or purchase or propose the purchase of, any shares of its capital stock or securities convertible into or exchangeable for, or subscriptions, rights, warrants or options to acquire, or other agreements or commitments of any character obligating it to issue any such shares or other convertible or exchangeable securities; or otherwise pledge or encumber any securities of APNT or its Subsidiaries;

(h) *Indebtedness.* Except pursuant to the Bridge Financing, issue or sell any debt securities or guarantee any debt securities of others, or incur any indebtedness for borrowed money, other than those relating to liabilities incurred in connection with the Transactions and reflected in the APNT Operating Budget; or mortgage, pledge or grant a security interest in any asset of any APNT Party;

(i) *Payment of Obligations.* Pay, discharge or satisfy any claim, liability or obligation (absolute, accrued, asserted or unasserted, contingent or otherwise) other than (i) as provided for in the APNT Operating Budget, or (ii) the payment, discharge or satisfaction of liabilities incurred in connection with the Transactions as the parties may agree.;

(j) *Capital Expenditures.* Make any capital expenditures, capital additions or capital improvements except as provided for in the APNT Operating Budget;

(k) *Acquisitions.* Acquire by merging or consolidating with, or by purchasing a substantial portion of the assets of, or by any other manner, any business or any corporation, partnership, association or other business organization or division thereof, or otherwise acquire any assets which are material, individually or in the aggregate, to its business, or acquire any equity securities of any corporation, partnership, association or business organization;

(l) *Taxes.* Make or change any material election in respect of Taxes, adopt or change any accounting method in respect of Taxes, file any Tax Return amendment to a Tax Return, enter into any closing or equivalent agreement, settle any claim or assessment in respect of Taxes, or consent to any extension or waiver of the limitation period applicable to any claim or assessment in respect of Taxes;

(m) *Litigation.* Initiate compromise or settle any material litigation or arbitration proceedings;

(n) *Affiliated Transactions.* Enter into any Contract, arrangement or other transaction with any Affiliate of APNT, except in connection with the Transactions contemplated by this Agreement;

(o) *Employment*. Except as required to comply with Legal Requirements or pursuant to plans, agreements or arrangements existing on the date hereof as provided for in the APNT Operating Budget, (i) take any action with respect to, adopt, enter into, terminate or amend any employment, severance, retirement, retention, incentive or similar agreement, arrangement or benefit plan for the benefit or welfare of any current or former director or officer or any collective bargaining agreement, (ii) increase any compensation or fringe benefits of, or pay any bonus to, any director, officer or other employee of any APNT Party, (iii) amend or accelerate the payment, right to payment or vesting of any compensation or benefits, (iv) pay any benefit not provided for as of the date of this Agreement under any benefit plan as provided for in the APNT Operating Budget, or (v) grant any awards under any bonus, incentive, performance or other compensation plan or arrangement or benefit plan, including the grant of stock options, stock appreciation rights, stock based or stock related awards, performance units or restricted stock, or the removal of existing restrictions in any benefit plans or agreements or awards made thereunder;

(p) *Loans*. Make any loans, advances or capital contributions, except advances for travel and other normal business expenses to officers and employees in accordance with policies and procedures in effect on the date hereof;

(q) *Intellectual Property Rights*. Transfer, license to any Person or entity any APNT Intellectual Property Rights or enter into any agreement, or violate, amend or otherwise modify or waive any of the terms of any agreements related to any APNT Intellectual Property Rights;

(r) *Facility*. Open or close any facility or office; and

(s) *Other*. Agree in writing or otherwise to take any of the foregoing actions.

ARTICLE IX

Pre-Closing Covenants of Nano

SECTION 9.1 *Access to Information*. Between the date of this Agreement and the Closing Date, subject to APNT's undertaking to use its commercially reasonable efforts to keep confidential and protect the Trade Secrets of the Nano Entities against any disclosure, Nano will permit APNT and its Representatives reasonable access to all of the books and records of the Nano Entities which are reasonably necessary for the preparation and amendment of the Proxy Statement and such other filings or submissions in accordance with SEC rules and regulations as are necessary to consummate the Transactions and as are necessary to respond to requests of the SEC's staff, APNT's accountants and relevant Governmental Authorities. In the event that any APNT Party or any of its Representatives is requested or required to disclose any Trade Secrets of the Nano Entities, such APNT Party shall provide the Nano Entities with prompt written notice of any such request or requirement so that the Nano Entities may seek a protective order or other appropriate remedy (at their sole expense).

SECTION 9.2 *Further Assurances*. From the date hereof until the earlier of the Closing Date or the termination of this Agreement in accordance with Article XIV, unless a lesser standard is expressly provided for elsewhere in the Agreement, in which case such lesser standard shall be applicable, Nano shall, on or prior to the Closing Date, use its commercially reasonable efforts to fulfill or obtain the fulfillment of the conditions precedent to the consummation of the transactions contemplated hereby. Unless a lesser standard is expressly provided for elsewhere in the Agreement, in which case such lesser standard shall be applicable, Nano shall further cooperate with APNT and its commercially reasonable efforts to take or cause to be taken all actions, and do or cause to be done all things, necessary, proper or advisable on their part under this Agreement, including continued due diligence, and applicable Legal Requirements to consummate the transactions set forth in this Agreement as soon as practicable.

SECTION 9.3 *Disclosure of Certain Matters*. From the date hereof through the Closing Date, Nano shall give APNT prompt written notice of any event or development that occurs that (a) is of a nature that, individually or in the aggregate, would have or reasonably be expected to have a Material Adverse Effect on the Nano Entities, taken as a whole, or (b) would require any amendment or supplement to the Proxy Statement; except that any such notice shall not qualify, affect or diminish the representations, warranties and other obligations of Nano under this Agreement, or amend the Disclosure Schedules delivered by Nano on the date hereof.

SECTION 9.4 *Regulatory and Other Authorizations; Notices and Consents*. Nano shall use commercially reasonable efforts to give or obtain (a) all material Consents from Governmental Authorities, (b) material notices to any Governmental Authority or third party, and (c) material consents of any third party, that in each case may be or become necessary for the execution and delivery of, and the performance of their obligations pursuant to, this Agreement or the Transaction Documents by any Nano Entity, or that is otherwise required to be obtained or made by or with respect to any Nano Entity in connection with, the execution, delivery and performance of this Agreement or the Transaction Documents, or the consummation of any of the Transactions.

SECTION 9.5 *Related Tax*. From the date hereof through the Closing Date, Nano shall, and shall cause each of the Nano Entities to, consistent with past practice, (i) duly and timely file all Tax Returns and other documents required to be filed by it with applicable Governmental Authorities, subject to extensions permitted by law and properly granted by the appropriate authority; *provided* that Nano notifies APNT that any of the Nano Entities is availing itself of such extensions, and (ii) pay all Tax shown as due on such Tax Returns or otherwise due.

SECTION 9.6 *Proxy Statement*. Nano shall use commercially reasonable efforts to provide promptly to APNT such information concerning its and the other Nano Entities' business affairs and financial statements as is required under applicable Legal Requirements for inclusion in the Proxy Statement (including audited financial statements), shall direct that its counsel cooperate with APNT's counsel in the preparation of the Proxy Statement and shall request the cooperation of Nano's auditors in the preparation of the Proxy Statement. None of the information supplied or to be supplied by or on behalf of Nano for inclusion or incorporation by reference in the Proxy Statement will, at the time the Proxy Statement is filed with the SEC, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they are made, not misleading. If any information provided by Nano is discovered or any event occurs with respect to any of Nano, or any change occurs with respect to the other information provided by Nano included in the Proxy Statement which is required to be described in an amendment of, or a supplement to, the Proxy Statement so that such document does not include any misstatement of a material fact or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, Nano shall notify APNT promptly of such event.

ARTICLE X Pre-Closing Covenants of APNT

SECTION 10.1 *Proxy Statement Filing, SEC Filings and Special Meeting*.

(a) APNT shall cause a meeting of its stockholders (the "**Stockholders' Meeting**") to be duly called and held as soon as reasonably practicable for the purpose of voting on the adoption and approval of, among others, this Agreement and the Transactions contemplated thereby. The APNT Board shall recommend to its stockholders that they vote in favor of the adoption of such matters. In connection with the Stockholders' Meeting, APNT (a) will use commercially reasonable efforts to file with the SEC as promptly as practicable the Proxy Statement, which shall serve as a proxy statement pursuant to Section 14(a), Regulation 14A, and Schedule 14A under the Exchange Act and all other proxy materials for such meeting, (b) upon receipt of approval from the SEC, will mail to its stockholders the Proxy Statement and other proxy materials, (c) will use commercially reasonable efforts to obtain the necessary approvals by its stockholders of this Agreement and the Transactions contemplated hereby under applicable Legal Requirements (the "**Stockholder Approval**"), and (d) will otherwise comply with all Legal Requirements applicable to the Stockholders' Meeting.

(b) APNT will timely provide to Nano all correspondence received from and to be sent to the SEC and will not file any amendment to the Proxy Statement with the SEC without providing Nano the opportunity to review and comment on any proposed responses to the SEC. APNT and Nano will cooperate with each other in finalizing each proposed response. In addition, APNT will use commercially reasonable efforts to cause the SEC to permit Nano and/or its counsel to participate in all SEC conversations on substantive issues related to the Proxy Statement together with APNT counsel.

SECTION 10.2 *Further Assurances*. From the date hereof until the earlier of the Closing Date and the termination of this Agreement in accordance with Article XIV, APNT shall, on or prior to the Closing Date, use its commercially reasonable efforts to fulfill or obtain the fulfillment of the conditions precedent to the consummation of the transactions contemplated hereby. APNT shall further cooperate with Nano and use its commercially reasonable efforts to take or cause to be taken all actions, and do or cause to be done all things, necessary, proper or advisable on its part under this Agreement and applicable Legal Requirements to consummate the transactions set forth in this Agreement as soon as practicable.

SECTION 10.3 *Disclosure of Certain Matters*. From the date hereof through the Closing Date, APNT shall give Nano prompt written notice of any event or development that occurs that (a) is of a nature that, individually or in the aggregate, would have or reasonably be expected to have a Material Adverse Effect on APNT, or (b) would require any amendment or supplement to the Proxy Statement; *provided* that any such notice shall not qualify, affect or diminish the representations, warranties and other obligations of the APNT Parties under this Agreement, or amend the Disclosure Schedules delivered by the APNT Parties on the date hereof. From the date hereof until the earlier of the Closing Date and the termination of this Agreement in accordance with Article XIV, APNT will keep Nano informed of the status of the payment and or conversion of any APNT Convertible Securities and any negotiations with any holder thereof. APNT will promptly give Nano copies of any agreement entered into with a holder of any APNT Convertible Securities. Any agreement with a holder of APNT Convertible Securities (exclusive of securities issued as part of the Bridge Financing) will not impose any obligations or any new or different obligations on the APNT Parties that would survive the closing of the Nano Merger.

SECTION 10.4 *Regulatory and Other Authorizations; Notices and Consents*. APNT shall use its commercially reasonable efforts to obtain all material authorizations, consents, orders and approvals of, and provide all material notices to, all Governmental Authorities and third parties that may be or become necessary for its execution and delivery of, and the performance of its obligations pursuant to, this Agreement and the Transaction Documents to which it is a party.

SECTION 10.5 *Exclusivity; No Other Negotiations*.

(a) Except as otherwise provided for herein, APNT shall not take (or authorize or permit any investment banker, financial advisor, attorney, accountant or other Person retained by or acting for or on behalf of APNT to take) directly or indirectly, any action to initiate, assist, solicit, negotiate, or encourage any offer, inquiry or proposal from any Person: (i) relating to any acquisition of such Person or APNT (regardless of the structure of any such acquisition) or (ii) take any other action that has the primary effect of avoiding the Closing contemplated hereby, except that the APNT Board may engage in discussions with any Person who has made an unsolicited bona fide written proposal relating to such an acquisition that the APNT Board determines in good faith constitutes, or could reasonably be expected to result in, an Superior Proposal; except that no such discussions shall limit, affect or impair the enforceability of this Agreement against APNT prior to the termination hereof.

(b) APNT will immediately cease any and all existing activities, discussions or negotiations with any parties conducted heretofore with respect to any of the actions set forth in Section 10.5(a) above, if applicable. APNT will promptly (i) notify Nano if APNT receives any such proposal or inquiry or request for information in connection with such proposal and (ii) notify Nano of the significant terms and conditions of any such proposal including the identity of the party making the proposal.

SECTION 10.6 *Related Tax*. From the date hereof through the Closing Date, APNT, consistent with past practice, shall (i) duly and timely file all Tax Returns and other documents required to be filed by it with applicable Governmental Authorities, subject to extensions permitted by Legal Requirements and properly granted by the appropriate authority; *provided*, that APNT notifies Nano that APNT is availing itself of such extensions, and (ii) pay all Tax shown as due on such Tax Returns.

ARTICLE XI

Additional Agreements and Covenants

SECTION 11.1 *Disclosure Schedules*. Each of the Parties shall, as of the Closing Date, have the obligation to supplement or amend their respective Disclosure Schedules being delivered concurrently with the execution of this Agreement and annexes and exhibits hereto with respect to any matter hereafter arising or discovered which resulted in, or could reasonably be expected to result in, a breach of any representation or warranty made by them herein; *provided* that any such amendment or supplementation shall not qualify, affect or diminish the representations, warranties and other obligations of the Parties under this Agreement or any condition to Closing hereunder, and the representations, warranties and other obligations of the Parties under this Agreement shall be made, qualified and/or determined by reference to the Disclosure Schedules as delivered at the time of execution of this Agreement.

SECTION 11.2 *Confidentiality*. Between the date hereof and the Closing Date, each of APNT, Nano and Zeiss shall hold and shall cause their respective Representatives to hold in strict confidence, unless compelled to disclose by judicial or administrative process or by other Legal Requirements or by the rules and regulations of, or pursuant to any agreement of a stock exchange or trading system, all documents and information concerning any other Party furnished to it by such other Party or its Representatives in connection with the Transactions, except to the extent that such information can be shown to have been (a) previously known by the Party to which it was furnished, (b) in the public domain through no fault of such Party, or (c) later lawfully acquired by the Party to which it was furnished from other sources, which source is not a Representative of the other Party, and each Party shall not release or disclose such information to any other Person, except its Representatives in connection with this Agreement. Each Party shall be deemed to have satisfied its obligations to hold confidential information concerning or supplied by the other Party in connection with the Transactions, if it exercises the same care as it takes to preserve confidentiality for its own similar information. For the avoidance of doubt, any disclosure of information required to be included by APNT or Nano in their respective filings with the SEC as required by the applicable Legal Requirements will not be violation of this Section 11.2.

SECTION 11.3 *Public Announcements*. From the date of this Agreement until the Closing or termination of this Agreement, APNT and Nano shall cooperate in good faith to jointly prepare all press releases and public announcements pertaining to this Agreement and the Transactions governed by it, and none of the foregoing shall issue or otherwise make any public announcement or communication pertaining to this Agreement or the Transactions without the prior consent of APNT or Nano, except as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system. If any public announcement or communication pertaining to this Agreement or the Transactions will mention Zeiss, the prior consent of Zeiss will be obtained, unless such communication is as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system. No Party will unreasonably withhold or delay approval from the others with respect to any press release or public announcement. If any Party determines with the advice of counsel that it is required to make this Agreement and the terms of the transaction public or otherwise issue a press release or make public disclosure with respect thereto, other than as required by any Legal Requirement or by the rules and regulations of, or pursuant to any agreement of, a stock exchange or trading system, it shall at a reasonable time before making any public disclosure, consult with the other Parties regarding such disclosure, seek such confidential treatment for such terms or portions of this Agreement or the transaction as may be reasonably requested by the other Parties and disclose only such information as is legally compelled to be disclosed.

SECTION 11.4 *Board Composition, Observer Rights and Officers.*

(a) Immediately following the Closing of the Nano Merger the Combined Board will consist of seven (7) persons. Prior to Closing, and as a precondition thereto, APNT shall obtain the resignations of its current directors and appointments of the nominated Combined Board (which resignations and nominee appointments are conditioned upon the Closing of the Nano Merger). Each Director Nominee shall serve as a director for a term expiring at PEN's next annual meeting of stockholders following the Closing Date and until his or her successor is elected and qualified. **"Director Nominee[s]"** means (i) three persons nominated by the APNT Board (all of whom shall be "independent directors" as such term is defined in the rules and regulations of the Exchange Act (the **"Independent Directors"**)) and in particular Ronald J. Berman, Dr. Robert Ronstadt and Howard Westerman and (ii) four persons nominated by the Nano Board and in particular, Douglas Q. Holmes, Jeanne M. Rickert, Scott E. Rickert, and James Sharp.

(b) Board Observation Rights. Until one year after the Closing Date, PEN and its Board of Directors shall permit the Director Nominees to designate a board observer, who as of Closing shall be Paul Rocheleau (the **"Observer"**) to the PEN Board of Directors subject to the following conditions. The Observer shall be permitted to attend all meetings of the PEN Board of Directors in a nonvoting observer capacity and, in this respect, PEN shall give the Observer copies of all notices, minutes, consents, and other materials that PEN provides to its Board of Directors; provided, however, that PEN reserves the right to withhold any information and to exclude such representative from any meeting or portion thereof if (i) access to such information or attendance at such meeting could adversely affect the attorney-client privilege between PEN and its counsel; (ii) access to such information or attendance at such meeting could result in disclosure of trade secrets to the Observer; (iii) access to such information or attendance at such meeting could result in a conflict of interest between the Observer and PEN or its counsel; or (iv) the Observer is, directly or indirectly, a competitor of PEN. The Observer shall agree to hold in confidence all information provided to it or learned by it in connection with its rights under this Section 11.4(b), except to the extent otherwise required by law and any other regulatory process to which Observer is subject.

(c) On the Closing Date, the Combined Board shall have appointed the following individuals to hold office of PEN until their successors are duly appointed:

<u>Name</u>	<u>Position</u>
Scott E Rickert	President,
	Chief Executive Officer
Bruce Vereecken	Chief Financial Officer
Jeanne M Rickert	Secretary and General Counsel

APNT and PEN shall have received the resignation of each of its current officers except those identified in this Section 11.4(c).

SECTION 11.5 *Fees and Expenses*. In the event there is no Closing of the Transactions contemplated by this Agreement, all fees and expenses incurred in connection with this Agreement shall be paid by the Party incurring such fees and expenses.

SECTION 11.6 *Director and Officer Insurance*. PEN shall purchase an insurance policy, with an effective date as of the Closing Date, which maintains in effect for no less than one year from the Closing Date a directors' and officers' liability insurance policy for APNT directors and officers on the date of this Agreement, except PEN will not be required to expend pursuant to this Section 11.6 more than an amount equal to the current annual premiums paid by APNT for such insurance.

SECTION 11.7 *Revisions to Certificate of Incorporation and Bylaws*. The consent of APNT will not be unreasonably withheld if Nano and Zeiss propose amendments to the PEN certificate of incorporation or the PEN bylaws that would cause the rights of the holder of Class Z Common Stock to be provided in separate contracts with Zeiss.

SECTION 11.8 *Transaction Documents*. To the extent this has not happened before the date hereof, on or prior to the Closing the parties will duly authorize execute and deliver the following agreements (collectively, the "**Transaction Documents**"):

- (i) the Lock-Up Agreements;
- (ii) the Voting and Conversion Agreements;
- (iii) Amended Compensation Agreements; and
- (iv) the Convertible Debt Agreement Amendments.

SECTION 11.9 *Bridge Financing*. As promptly as practicable, APNT shall initiate a financing transaction whereby it shall raise a maximum of \$1,500,000 on the terms and conditions agreed upon by APNT and Nano (the "**Bridge Financing**"). Proceeds of any Bridge Financing shall only be applied as agreed by Nano and APNT. If the Bridge Financing includes convertible debt as opposed to an equity investment in APNT, the convertible debt instrument included in such Bridge Financing shall include a mandatory conversion feature requiring that it be converted into equity of APNT or PEN, as the case may be, no later than 60 days after the Closing Date. Nano shall use commercially reasonable efforts to assist APNT with the Bridge Financing. Nano shall also be permitted to discuss with potential lenders the terms of a subordinated debt financing with an equity component, provided that if the equity would dilute APNT or PEN stockholders the consent of APNT shall be required prior to Nano entering into any agreement or commitment with respect to such financing.

SECTION 11.10 *APNT Operating Budget*. The APNT Board has directed that the APNT Parties implement a revised operating budget that provides: (i) that salaries will be reduced to the level of the cash salary payments made in the payroll effective in January 2014, (ii) that there shall be no further salary deferrals or accruals, (iii) that there be no new hires and no salary increases, and (iv) for continuing the cash conservation limits and approval procedures previously in effect. The APNT Board (or a committee thereof) will directly oversee its implementation of the operating budget by the officers and employees of the APNT Parties and their compliance with its terms. The operating budget will not be modified or amended without the prior approval of Nano.

ARTICLE XII
Conditions to Closing

SECTION 12.1 *Nano Conditions Precedent*. The obligations of Nano to complete the Closing are subject to the fulfillment on or prior to the Closing Date, of the following conditions by the APNT Parties, any one or more of which may be waived by Nano in writing.

(a) *Representations and Covenants*. The representations and warranties of the APNT Parties contained in this Agreement, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, shall be true on and as of the Closing Date, except where the failure of such representations or warranties to be so true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on the APNT Parties, and each of the APNT Parties shall have performed and complied in all material respects with all covenants and agreements required by this Agreement to be performed or complied with by each of them on or prior to the Closing Date, and the APNT Parties shall have delivered to Nano a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *No Material Adverse Change*. There shall not have been any occurrence, event, incident, action, failure to act, or transaction since September 30, 2013 which has had or is reasonably likely to cause a Material Adverse Effect on APNT.

(d) *Filing of Proxy Statement*. APNT shall have filed the definitive Proxy Statement with the SEC and mailed it to APNT’s stockholders.

(e) *Approval by APNT’s Stockholders*. The Transactions shall have been approved by the holders of Common Stock in accordance with the DGCL and the TBOC, other applicable Legal Requirements, and the APNT Constituent Instruments.

(f) *Resignations*. Effective as of the Closing, the directors and officers of APNT who will not be continuing directors and officers of PEN will have resigned and the copies of the resignation letters of such directors and officers shall have been delivered to PEN, together with a written release from each such resigning director and officer to the effect that such person has no claim for employment or other compensation in any form from APNT except for reimbursement of outstanding expenses existing as of the date of such person’s resignation.

(g) *SEC Reports*. APNT shall have filed all reports and other documents required to be filed by APNT under the U.S. federal securities laws through the Closing Date.

(h) *Secretary’s Certificate*. Nano shall have received a certificate from APNT, signed by its Secretary, certifying that the attached copies of the APNT Constituent Instruments and resolutions of the APNT Board approving the Agreement and the Transactions are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(i) *Deliveries*. The deliveries required to be made by APNT in Article V shall have been made by APNT.

(j) *Governmental Approval*. The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

(k) *Redomestication Merger and NanoMerger Documents*. The following documents shall have been executed and delivered by the APNT Parties: (i) Certificate of Redomestication Merger to be filed in accordance with the DGCL as of the Redomestication Merger Effective Time; (ii) Certificate of Redomestication Merger to be filed in accordance with the TBOC as of the Redomestication Merger Effective Time; and (iii) Certificate of Nano Merger to be filed in accordance with the DGCL as of the Nano Merger Effective Time.

(m) *Certificate of Good Standing*. Nano shall have received a certificate of good standing (or its equivalent) under the applicable Legal Requirements of each of the APNT Parties.

(n) *Bridge Financing*. APNT shall have closed on the Bridge Financing and applied the proceeds as provided in Section 11.9 hereof.

(o) *Convertible Securities*. Evidence reasonably satisfactory to Nano that all debts or other obligations of APNT which are convertible into equity securities of APNT that are outstanding on the Closing Date (exclusive of the any securities issued as part of the Bridge Financing) have been paid in full or converted into APNT Shares in accordance with their terms or the Convertible Debt Agreement Amendments.

(p) *Required Consents*. All consents, authorizations and approvals of the owners of Nano and the Persons set forth in Schedule 12.1(p) of this Agreement shall have been obtained.

SECTION 12.2 *APNT Conditions Precedent*. The obligations of APNT to complete the Closing are subject to the fulfillment on or prior to the Closing Date of the following conditions by Nano, any one or more of which may be waived by APNT in writing:

(a) *Representations and Covenants*. The representations and warranties of Nano contained in this Agreement, when read without any qualifications relating to “materiality,” or “Material Adverse Effect”, shall be true on and as of the Closing Date, except where the failure of such representations or warranties to be so true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on Nano, and Nano shall have performed and complied in all material respects with all covenants and agreements required by this Agreement to be performed or complied with by each of them on or prior to the Closing Date, and Nano shall have delivered to APNT a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *No Material Adverse Change*. There shall not have been any occurrence, event, incident, action, failure to act, or transaction since September 30, 2013 which has had or is reasonably likely to cause a Material Adverse Effect on the Nano Entities, taken as a whole.

(d) *Approval by APNT's Stockholders.* The Transactions shall have been approved by the holders of Common Stock in accordance with the DGCL and the TBOC, other applicable Legal Requirements, and the APNT Constituent Instruments.

(e) *Officer's Certificates.* APNT shall have received a certificate from Nano signed by an authorized officer certifying that the attached copies of each such Party's constituent instruments and resolutions or other authorizing documents approving the Agreement and the Transactions are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(f) *Certificate of Good Standing.* APNT shall have received a certificate of good standing of Nano.

(g) *Deliveries.* All other deliveries required to be made by Nano in Article V shall have been made by them.

(h) *Governmental Approval.* The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

(i) *Required Consents.* All consents, authorizations and approvals, of the Persons set forth in Schedule 12.2(j) of this Agreement shall have been obtained.

SECTION 12.3 *PEN Conditions Precedent.* The obligations of PEN to complete the Exchange is subject to the fulfillment on or prior to the Closing Date of the following conditions by Zeiss, any one or more of which may be waived by PEN in writing:

(a) *Representations and Covenants.* The representations and warranties of Zeiss contained in this Agreement, when read without any qualifications relating to "materiality," or "Material Adverse Effect", shall be true on and as of the Closing Date except where the failure of such representations or warranties to be true and correct, individually or in the aggregate, has not had or would not reasonably be expected to have a Material Adverse Effect on Zeiss or on its ability to consummate the Exchange, other than those set forth in Section 13.1(d) which shall be true and correct on and as of the Closing Date, and Zeiss shall have delivered to PEN a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions.* No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *Officer's Certificates.* PEN shall have received a certificate from Zeiss signed by an authorized officer certifying that the attached copies of Zeiss's resolutions or other authorizing documents approving the Agreement and the Exchange are all true, complete and correct and remain in full force and effect, and certifying as to the incumbency of its officers.

(d) *Governmental Approval.* The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

SECTION 12.4 *Zeiss Conditions Precedent*. The obligations of Zeiss to complete the Exchange is subject to the fulfillment on or prior to the Closing Date of the following conditions by the Parties, any one or more of which may be waived by Zeiss in writing:

(a) *Representations and Covenants*. The representations and warranties of APNT contained in Section 7.1(f) of this Agreement, shall be true on and as of the Closing Date, and APNT shall have delivered to Zeiss a certificate, dated the Closing Date, to the foregoing effect.

(b) *No Litigation, Injunctions*. No action, suit or proceeding shall have been instituted before any court or governmental or regulatory body or instituted by any Governmental Authorities to restrain, modify or prevent the carrying out of the Transactions, or to seek material damages or a discovery order in connection with such Transactions, and there shall exist no injunction or other order issued by any Governmental Authority or court of competent jurisdiction which prohibits the consummation of any of the Transactions.

(c) *Governmental Approval*. The Parties shall have timely obtained from each Governmental Authority all approvals, waivers and consents, if any, necessary for consummation of or in connection with this Agreement and the Transactions contemplated hereby, including such approvals, waivers and consents as may be required under applicable Legal Requirements.

ARTICLE XIII **Representations and Warranties of Zeiss**

13.1 *Representations and Warranties of Zeiss*. Zeiss represents and warrants to the APNT Parties that:

(a) Zeiss is a corporation duly organized and validly existing under the laws of the State of New York and has all requisite corporate power and authority to execute and deliver this Agreement and any Transaction Documents to which it is a party and to consummate the Transactions contemplated hereby and thereby. The execution, delivery and performance by Zeiss of this Agreement and its consummation of the Transactions have been duly authorized and approved by all necessary corporate action of Zeiss, such authorization and approval remains in effect and has not been rescinded or qualified in any way, and no other proceedings on the part of Zeiss is necessary to authorize this Agreement and the Transactions.

(b) Each of this Agreement and the Transaction Documents to which Zeiss is a party has been, or on the Closing Date will be, duly executed and delivered by such party and constitutes the valid, binding, and enforceable obligation of Zeiss, enforceable in accordance with its terms, except as enforceability may be limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent transfer or similar laws of general application now or hereafter in effect affecting the rights and remedies of creditors and by general principles of equity (regardless of whether enforcement is sought in a proceeding at law or in equity).

(c) The execution and delivery of this Agreement or any of the Transaction Documents by Zeiss and the consummation of the Transactions and compliance with the terms hereof and thereof will not, (a) conflict with, or result in any violation of or default (with or without notice or lapse of time, or both) under, or give rise to a right of termination, cancellation or acceleration of any obligation or to loss of a material benefit under, or result in the creation of any Lien (other than a Permitted Lien) upon the Z Units under any provision of: (i) any Zeiss Constituent Instrument or (ii) any material contract to which Zeiss is a party or to or by which it (or any of its assets and properties) is subject or bound, other than as would not affect in any material respect the ability of Zeiss to consummate the Exchange.

(d) Zeiss is, and as of the Closing Date will be, the record and beneficial owner of the Z Units, free and clear of any and all Liens (except for any Liens created under the Operating Agreement, as amended, of Nanofilm LLC or under this Agreement). Zeiss has the power and authority to sell, transfer, assign and deliver the Z Units as provided in this Agreement and such delivery will convey to PEN the Z Units free and clear of any and all Liens (except for any Liens created under the Operating Agreement, as amended, of Nanofilm LLC).

ARTICLE XIV
Termination

SECTION 14.1 *Methods of Termination*. Unless waived by the Parties hereto in writing, the Transactions may be terminated and/or abandoned at any time but not later than the Closing:

(a) by mutual written consent of Nano and APNT;

(b) by either APNT or Nano if the Closing has not occurred by the later of (i) July 31, 2014 or (ii) such other date that has been agreed in writing by Nano and APNT (the "**End Date**"); except that the right to terminate this Agreement under this Section 14.1(b) shall not be available to any Party whose failure to comply with any provision of this Agreement has been the cause of, or resulted in, the failure of the Closing Date to occur on or before such date.

(c) by Nano if there has been a breach by the APNT Parties of any representation, warranty, covenant or agreement contained in this Agreement which has prevented the satisfaction of the conditions to the obligations of Nano at the Closing under Section 12.1(a) (which shall be deemed to have occurred in the event of a material breach of Section 8.2(c)(i)) and such violation or breach has not been waived by Nano or cured by the APNT Parties within thirty (30) days after written notice thereof from Nano;

(d) by APNT, if there has been a breach by Nano of any representation, warranty, covenant or agreement contained in this Agreement which has prevented the satisfaction of the conditions to the obligations of the APNT Parties at the Closing under Section 12.2(a) and such violation or breach has not been waived by APNT or cured by Nano within thirty (30) days after written notice thereof from the APNT Parties;

(e) by either APNT or Nano if the Stockholder Approval is not obtained; or

(f) by either APNT or Nano if a court of competent jurisdiction or other Governmental Authority shall have issued an order or injunction or taken any other action (which order, injunction or action the Parties shall use their use their commercially reasonable efforts to lift) permanently restraining, enjoining or otherwise prohibiting the Transactions or any of them and such order or action shall have become final and nonappealable.

SECTION 14.2 *Effect of Termination*.

(a) In the event of termination by either APNT or Nano, or both of them, pursuant to Section 14.1 hereof, written notice thereof shall forthwith be given to the other Parties, and except as set forth in this Section 14.2, (i) all further obligations of the Parties shall terminate, (ii) each Party shall bear its own fees and expenses relating to the Transactions contemplated hereby, and (iii) none of the Parties shall have any liability in respect of such termination of this Agreement.

(b) If the Transactions contemplated by this Agreement are terminated and/or abandoned as provided herein:

(i) each Party hereto will destroy all documents, work papers and other material (and all copies thereof except for one copy that may be retained by outside counsel for each Party) of the other Parties relating to the Transactions contemplated hereby, whether so obtained before or after the execution hereof; and

(ii) all confidential information received by any Party hereto with respect to the business of the other Parties hereto shall be treated in accordance with Section 11.2 hereof, which shall survive such termination. The following other provisions shall also survive termination of this Agreement: this Article XIV (Termination) and Article XV (Miscellaneous).

(c) Scott Rickert shall resign as a director of PEN and of MergerSub. APNT shall cause the name of PEN to be changed by filing appropriate articles of amendment in compliance with the DGCL, shall take all applicable steps in satisfaction of the Legal Requirements to allow Nano to immediately use the corporate name PEN in the state of Delaware, and shall execute and deliver any instrument Nano may reasonably request to transfer to Nano all rights in the name PEN.

ARTICLE XV
Miscellaneous

SECTION 15.1 *Notices*. All notices, requests, waivers and other communications made pursuant to this Agreement will be in writing, at the addresses set forth on the signature pages hereto (or at such other address for a Party as shall be specified in writing to all other Parties), and will be conclusively deemed to have been duly given (i) when hand delivered to the recipient Party; (ii) upon receipt, when sent by facsimile with written confirmation of transmission; or (iii) the next business day after deposit with a national overnight delivery service, postage prepaid, with next business day delivery guaranteed. Each Person making a communication hereunder will promptly confirm by e-mail to the Person to whom such communication was addressed each communication made pursuant hereto. In addition to delivery of notice to a Party, copies of such notice shall be provided as follows:

If to any of the APNT Parties::

Donald T. Locke, Esq.
421 Fayetteville Street, Suite 1100
Raleigh, NC 27601
Email: dtlocke@emcapsolutions.com
Telephone: (919) 264-4081
Facsimile: (919) 882-1851

And

Herbert F. Kozlov, Esq.
Reed Smith LLP
599 Lexington Avenue
New York, NY 10022-7560
Email: hkozlov@reedsmith.com
Telephone: (212) 549-0241
Facsimile (212) 521-5450

If to Zeiss:

Scott Margolin, Esq
Carl Zeiss, Inc.
One Zeiss Drive
Thornwood, NY 10594
Telephone: (914) 681-7880
Facsimile: (914) 681-7485

If to Nano:

Legal & Compliance, LLC
330 Clematis Street, Suite 217
West Palm Beach, FL 33401
Attention: Laura Anthony, Esq.
Email: lanthony@legalandcompliance.com
Telephone: (561) 514-0832
Facsimile: (561) 512-8224

And:

Jeanne M. Rickert, Esq.
Nanofilm Ltd.
9 Diamond Drive
Key West FL 33040
Email: jeannemrickert@msn.com
Telephone: (305) 647-2576
Facsimile: none

With a copy to:

John F. Baron, Esq.
Alston & Bird
Bank of America Plaza
101 South Tryon Street
Suite 4000
Charlotte, NC 28280
Telephone: (704) 444-1434
Facsimile: (704) 444-1774

SECTION 15.2 *Amendments; Waivers; No Additional Consideration*. No provision of this Agreement may be waived or amended except in a written instrument signed by APNT, Nano and Zeiss. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any Party to exercise any right hereunder in any manner impair the exercise of any such right.

SECTION 15.3 *Estimates, Projections and Forecasts*. The Parties acknowledge and agree that (a) they are not making nor have they made any representations or warranties to each other whatsoever with respect to any estimates, projections or other forecasts and plans (including the reasonableness of the assumptions underlying such estimates, projections or forecasts) regarding their respective businesses, revenues, earnings, gross margins, launch of new or existing products or any other matters, (b) that there are uncertainties inherent in attempting to make any estimates, projections or other forecasts and plans, that each Party is familiar with such uncertainties, that each of the respective Parties is taking full responsibility for making its own evaluation of the adequacy and accuracy of all estimates, projections and other forecasts and plans (including the reasonableness of the assumptions underlying such estimates, projections and forecasts), and (c) that neither Party has a claim against the other or anyone else with respect thereto.

SECTION 15.4 *Interpretation*. Unless the express context otherwise requires:

(a) the words “hereof,” “herein,” and “hereunder” and words of similar import, when used in this Agreement, shall refer to this Agreement as a whole and not to any particular provision of this Agreement;

(b) terms defined in the singular shall have a comparable meaning when used in the plural, and vice versa;

(c) the terms “Dollars” and “\$” mean United States Dollars;

(d) references herein to a specific Section, Subsection, Background, Preamble, Schedule, Annex or Exhibit shall refer, respectively, to Sections, Subsections, the Background, the Preamble, Schedules, Annexes or Exhibits of this Agreement;

(e) wherever the word “include,” “includes,” or “including” is used in this Agreement, it shall be deemed to be followed by the words “without limitation” ;

(f) references to any gender shall include each other gender;

(g) references to any Person shall include such Person’s heirs, executors, personal representatives, administrators, successors and permitted assigns;

(h) references herein to a Person in a particular capacity or capacities shall exclude such Person in any other capacity;

(i) references herein to any Contract or agreement (including this Agreement) mean such contract or agreement as amended, supplemented or modified from time to time in accordance with the terms thereof;

(j) references herein to any Legal Requirement or any license mean such Legal Requirement or license as amended, modified, codified, reenacted, supplemented or superseded in whole or in part, and in effect from time to time; and

(k) references herein to any Legal Requirement shall be deemed also to refer to all rules and regulations promulgated thereunder.

SECTION 15.5 *Severability*. If any term or other provision of this Agreement is invalid, illegal or incapable of being enforced by any Legal Requirement or public policy, all other conditions and provisions of this Agreement shall nevertheless remain in full force and effect so long as the economic or legal substance of the Transactions is not affected in any manner materially adverse to any Party.

SECTION 15.6 *Counterparts; Electronic Execution*. This Agreement may be executed in one or more counterparts, all of which shall be considered one and the same agreement and shall become effective when one or more counterparts have been signed by each of the Parties and delivered to the other Parties. Facsimile, "pdf" or other electronic transmission or execution and delivery of this Agreement is legal, valid and binding for all purposes.

SECTION 15.7 *Entire Agreement; Third-Party Beneficiaries*. This Agreement and the letter agreement of even date by and among Zeiss, Nano and Nanofilm LLC, taken together with all Exhibits, Annexes and Schedules hereto (a) constitute the entire agreement, and supersede all prior agreements and understandings, both written and oral, among the Parties with respect to the Transactions and (b) except as otherwise provided herein, are not intended to confer upon any Person other than the Parties any rights or remedies.

SECTION 15.8 *Governing Law; Venue and Forum*. This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware regardless of the laws that might otherwise govern under applicable principles of conflicts of laws thereof. Any action arising out of or relating to this Agreement shall be **heard exclusively in federal or state court located in the State of Delaware, and expressly consent to the jurisdiction and venue of the courts sitting in the State Delaware for the adjudication of any such action.**

SECTION 15.9 *Assignment*. Neither this Agreement nor any of the rights, interests or obligations under this Agreement shall be assigned, in whole or in part, by operation of law or otherwise by any of the Parties without the prior written consent of the other Parties. Any purported assignment without such consent shall be void. Subject to the preceding sentences, this Agreement will be binding upon, inure to the benefit of, and be enforceable by, the Parties and their respective successors and assigns. Without limiting the generality of the foregoing, any covenants of APNT hereunder that are to be performed by APNT following the Effective Time of the Redomestication Merger are covenants that will be performed by PEN as the successor to APNT.

SECTION 15.10 *Liability Not Affected by Knowledge or Waiver*. The right to recovery of losses or other remedy based upon breach of representations, warranties, or covenants will not be affected by any investigation conducted with respect to, or knowledge acquired (or capable of being acquired) at any time, whether before or after the execution and delivery of this Agreement, with respect to the accuracy or inaccuracy of or compliance with any such representation, warranty, or covenant.

SECTION 15.11 *Exhibits and Schedules.*

(a) Any matter, information or item disclosed in this Agreement or the Disclosure Schedules delivered by a Party or in any of the Annexes, Schedules or Exhibits attached hereto, under any specific representation, warranty, covenant or Schedule heading number, shall be deemed to have been disclosed for all purposes of this Agreement in response to every representation, warranty or covenant in this Agreement in respect of which such disclosure is reasonably apparent on its face. The inclusion of any matter, information or item in any Schedule to this Agreement shall not be deemed to constitute an admission of any liability to any third party or otherwise imply, that any such matter, information or item is material or creates a measure for materiality for the purposes of this Agreement or otherwise.

(b) The parties hereto intend that each representation, warranty and covenant contained herein will have independent significance. If any party hereto has breached any representation, warranty, or covenant contained herein in any respect, the fact that there exists another representation, warranty, or covenant relating to the same subject matter (regardless of the relative levels of specificity) which the party has not breached will not detract from or mitigate the fact that the party is in breach of the first representation, warranty or covenant.

(c) The Annexes, Schedules and Exhibits hereto are hereby incorporated into this Agreement and are hereby made a part hereof as if set out in full in this Agreement.

[Signatures begin next page]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt
Name: Robert Ronstadt
Title: Chairman of the Board

PEN INC.

By: /s/ Robert Ronstadt
Name: Robert Ronstadt
Title: Chairman of the Board

NANOMERGER SUB INC.

By: /s/ Robert Ronstadt
Name: Robert Ronstadt
Title: Chairman of the Board

NANO HOLDINGS INC.

By: /s/ Scott Rickert
Name: Scott Rickert
Title: Chief Executive Officer

CARL ZEISS, INC.

By: /s/ James A. Sharp
Name: James A. Sharp
Title: President

ANNEX A

Definitions

“*Action*” has the meaning set forth in Section 6.10 of the Agreement.

“*Affiliates*” shall mean any Person that directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with the Person specified. For purposes of this definition, control of a Person means the power, direct or indirect, to direct or cause the direction of the management and policies of such Person whether by Contract or otherwise and, in any event and without limitation of the previous sentence, any Person owning fifty percent (50%) or more of the voting securities of a second Person shall be deemed to control that second Person. For the purposes of this definition, a Person shall be deemed to control any of his or her immediate family members.

“*Amended Compensation Agreements*” has the meaning set forth in the preamble to the Agreement.

“*APNT*” has the meaning set forth in the preamble to the Agreement.

“*APNT Board*” means the board of directors of APNT prior to the Redomestication Merger.

“*APNT Constituent Instruments*” has the meaning set forth in Section 7.2 of the Agreement.

“*APNT Disclosure Schedule*” has the meaning set forth in Article VII of the Agreement.

“*APNT Intellectual Property Rights*” means the APNT Patents, APNT Marks, APNT Copyrights and trade secrets, discoveries and inventions owned by APNT.

“*APNT Material Contract*” has the meaning set forth in Section 7.20 of the Agreement.

“*APNT Parties*” has the meaning set forth in the background to the Agreement, and for purposes of any covenant or representation or warranty includes the Subsidiaries of APNT and “*APNT Party*” means any of them.

“*APNT SEC Documents*” has the meaning set forth in Section 7.7 of the Agreement.

“*APNT Share(s)*” means the APNT common stock, par value \$.001 per share.

“*Agreement*” means this Agreement as it may be amended from time to time in accordance with its terms.

“*APNT Certificates*” has the meaning set forth in Section 4.3 of the Agreement.

“*Audited Financial Statements*” has the meaning set forth in Section 6.7(a) of the Agreement.

“*Bridge Financing*” has the meaning set forth in Section 11.9 of the Agreement.

“*Certificate of Redomestication Merger*” has the meaning set forth in Section 1.2 of the Agreement.

“*Certificate of Nano Merger*” has the meaning set forth in Section 2.2 of the Agreement.

“*Closing*” has the meaning set forth in Section 5.1 of the Agreement.

“*Closing Date*” has the meaning set forth in Section 5.1 of the Agreement.

“*Code*” means the United States Internal Revenue Code of 1986, as amended.

“*Combined Board*” means the board of directors of PEN following the Closing.

“*Common Stock*” means the APNT Common Stock, \$0.001 par value per share.

“*Confidential Information*” means confidential and proprietary data and information relating to the Party providing such information and its Subsidiaries and Affiliates; other than any data or information that (i) has been voluntarily disclosed to the general public by the disclosing party or its Affiliates, (ii) has been independently developed and disclosed to the general public by others, (iii) otherwise enters the public domain through lawful means and not in violation of any confidentiality obligation to any Person or (iv) has been disclosed pursuant to legal process.

“*Consent*” has the meaning set forth in Section 6.6 of the Agreement.

“*Contract*” means a contract, lease, license, indenture, note, bond, agreement, permit, concession, franchise or other instrument, whether written or verbal.

“*Convertible Debt Agreement Amendments*” means the documents that evidence the payment in full or the terms of the conversion for all outstanding convertible debt of APNT as contemplated by Section 12.1(o).

“*DGCL*” has the meaning set forth in the background to the Agreement.

“*Director Nominees*” has the meaning set forth in Section 11.4(a) of the Agreement.

“*Dissenting Shares*” has the meaning set forth in Section 4.1(c) of the Agreement.

“*Disclosure Schedules*” means the Nano Disclosure Schedule and the APNT Disclosure Schedule.

“*End Date*” has the meaning set forth in Section 14.1(b) of the Agreement.

“*Environment*” means soil, land surface or subsurface strata, surface waters (including navigable waters, ocean waters, streams, ponds, drainage basins, and wetlands), groundwaters, drinking water supply, stream sediments, ambient air (including indoor air), plant and animal life, and any other environmental medium or natural resource.

“*Environmental Law*” shall mean any Legal Requirement that requires or relates to:

(a) advising appropriate authorities, employees, and the public of threatened or actual releases of pollutants or hazardous substances or materials, violations of discharge limits, or other prohibitions and of the commencements of activities, such as resource extraction or construction, that could have significant impact on the Environment;

(b) preventing or reducing to acceptable levels the release of pollutants or hazardous substances or materials into the Environment;

(c) reducing the quantities, preventing the release, or minimizing the hazardous characteristics of wastes that are generated;

(d) assuring that products are designed, formulated, packaged, and used so that they do not present unreasonable risks to human health or the Environment when used or disposed of;

(e) protecting resources, species, or ecological amenities;

(f) reducing to acceptable levels the risks inherent in the transportation of hazardous substances, pollutants, oil, or other potentially harmful substances;

(g) cleaning up pollutants that have been released, preventing the threat of release, or paying the costs of such clean up or prevention; or

(h) making responsible parties pay private parties, or groups of them, for damages done to their health or the Environment, or permitting self-appointed representatives of the public interest to recover for injuries done to public assets.

“*Exchange*” has the meaning set forth in the preamble of the Agreement.

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

“*Exchange Ratio*” means (1) the Fully Diluted APNT Shares multiplied by (2) 1.6316, divided by (3) the Fully Diluted Nano Units.

“*FINRA*” means the Financial Industry Regulatory Authority.

“*Fully Diluted APNT Shares*” means the sum of: the number of APNT shares outstanding, plus the total number of APNT Shares reserved for issuance upon the exercise of any convertible instrument or right to receive APNT shares other than the options to purchase 5,908,000 shares which shall be excluded, but including any potential warrant exercise, plus the number of shares required for conversion of APNT debt pursuant to the Convertible Debt Agreement Amendments, plus the number of APNT Shares issued or reserved pursuant to the Amended Compensation Agreements, plus the number of APNT shares issued or reserved for issuance pursuant to the Voting and Conversion Agreements and for the “merger fee” payable to the Special Committee of the APNT Board, calculated immediately before the Nano Merger Effective Time.

“*Fully Diluted Nano Units*” means the sum of the number of Units of Nano outstanding plus the Units required upon conversion of the Equity Credits previously granted by Nanofilm LLC as calculated immediately before the Nano Merger Effective Time.

“*Governmental Authority*” means any national, federal, state, provincial, local or foreign government, governmental, regulatory or administrative authority, agency or commission or any court, tribunal or judicial or arbitral body of competent jurisdiction, or other governmental authority or instrumentality, domestic or foreign.

“*PEN*” has the meaning set forth in the preamble to the Agreement.

“*PEN Share(s)*” means the PEN Class A Common Stock, par value \$0.0001 per share, the PEN Class B Common Stock, par value \$0.0001 per share, or the PEN Class Z Common Stock, par value \$0.0001 per share, as the context may require.

“*Independent Director(s)*” has the meaning set forth in Section 11.4(a) of the Agreement.

“*Judgment*” means any judgment, order or decree of a court, arbitrator, administrative agency or other tribunal.

“*Knowledge*,” (i) with respect to the Nano Entities, means the actual knowledge of the Chairman of the board of directors, the Chief Executive Officer, the Chief Financial Officer, the Chief Operating Officer and the Vice Presidents of Nano, and (ii) with respect to APNT, means the actual knowledge of those its named executive officers as set forth in its Form 10-K for the period ended December 31, 2012 as filed with the SEC who are employed by APNT on February 28, 2014 and the members of the APNT Board of Directors.

“*Legal Requirement*” means any federal, state, local, municipal, provincial, foreign or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Authorities (or under the authority of any national securities exchange upon which APNT Shares (or PEN Shares) are then listed or traded).

“*Liens*” means any liens, security interests, pledges, equities and claims of any kind, voting trusts, shareholder agreements and other encumbrances.

“*Lock-Up Agreement*” means the lock-up agreement to be entered into by each of the directors of PEN.

“*Material Adverse Effect*” means any event, change or effect that is materially adverse to the condition (financial or otherwise), properties, assets, liabilities, business, operations or results of operations of A Person and its Subsidiaries, taken as a whole. Notwithstanding the foregoing, the definition of Material Adverse Effect shall not include events caused by (A) changes in general economic conditions or capital or credit markets, except to the extent that the same disproportionately impact such Person as compared to other similarly situated Persons; (B) changes to the economic conditions affecting the industries in which such Person operates, except to the extent that the same disproportionately impact such Person as compared to other Persons in such industries; (C) changes related to or arising from the execution, announcement or performance of, or compliance with, this Agreement or the consummation of the Transactions; (D) changes in accounting requirements or principles or any change in applicable Legal Requirements or the interpretation thereof; (E) the failure to meet any projections.

“*Material Contract*” has the meaning set forth in Section 6.14 of the Agreement.

“*Nano Merger*” has the meaning set forth in the background to the Agreement.

“*Nano Balance Sheet*” has the meaning set forth in Section 6.9 of the Agreement.

“*Nano*” has the meaning set forth in the preamble to the Agreement.

“*Nano Constituent Instruments*” means Nano’s Operating Agreement, Bylaws, and Tax Appendix as they may exist, each as amended to the date of the Agreement.

“*Nano Disclosure Schedule*” has the meaning set forth in Article VI of the Agreement.

“*Nano Entities*” means, collectively, Nano and its Subsidiaries, and “*Nano Entity*” means any of them.

“*Nano Financial Statements*” has the meaning set forth in Section 6.7(a) of the Agreement.

“*Nano Intellectual Property Rights*” means the Nano Patents, Nano Marks, copyrights and trade secrets, discoveries and inventions owned by Nano.

“*Nano Shares*” has the meaning set forth in Section 4.4 of the Agreement.

“*Nanofilm LLC*” has the meaning set forth in the preamble to the Agreement.

“OFAC” has the meaning set forth in Section 7.25 of the Agreement.

“*Off-Balance Sheet Arrangement*” means with respect to any Person, any securitization transaction to which that Person or its Subsidiaries is party and any other transaction, agreement or other contractual arrangement to which an entity unconsolidated with that Person is a party, under which that Person or its Subsidiaries, whether or not a party to the arrangement, has, or in the future may have: (a) any obligation under a direct or indirect guarantee or similar arrangement; (b) a retained or contingent interest in assets transferred to an unconsolidated entity or similar arrangement; or (c) derivatives to the extent that the fair value thereof is not fully reflected as a liability or asset in the financial statements.

“*Party*” or “*Parties*” has the meaning set forth in the preamble to the Agreement.

“*Permits*” mean all governmental franchises, licenses, permits, authorizations and approvals necessary to enable a Person to own, lease or otherwise hold its properties and assets and to conduct its businesses as presently conducted.

“*Permitted Lien*” shall mean (a) any restriction on transfer arising under applicable securities Legal Requirements; (b) any Liens for Taxes not yet due or delinquent or being contested in good faith by appropriate proceedings for which adequate reserves have been established in accordance with U.S. GAAP; (c) any statutory Liens arising in the ordinary course of business by operation of law with respect to a liability that is not yet due and delinquent and which are not, individually or in the aggregate, significant; (d) covenants, conditions, restrictions, easements and other similar matters of record affecting title to real estate which do not materially impair the occupancy or use of any real estate for the purposes for which it is currently used or proposed to be used in connection with the such relevant Person’s business; (e) Liens arising under worker’s compensation, unemployment insurance, social security, retirement and similar legislation; (f) those Liens set forth in the Nano Disclosure Schedule and (g) those Liens set forth in the APNT Disclosure Schedule.

“*Person*” shall mean an individual, partnership, corporation, joint venture, unincorporated organization, cooperative other entity, or a Governmental Authority or agency thereof.

“Proxy Statement” has the meanings set forth in Section 7.6 of the Agreement.

“*Real Estate Leases*” has the meaning set forth in Section 7.23 of the Agreement.

“*Redomestication Merger*” has the meaning set forth in the background to the Agreement.

“*Redomestication Merger Effective Time*” has the meaning set forth in Section 1.2 of the Agreement.

“*Regulation S-K*” means Regulation S-K promulgated under the Securities Act of 1933, as amended.

“*Representatives*” of any Party shall mean such Party’s employees, accountants, auditors, actuaries, counsel, financial advisors, bankers, investment bankers and consultants and any other person acting on behalf of such Party.

“*Research Contract*” means a Contract in effect on the date hereof that obligates a Person to conduct research activities on behalf of another Person.

“*Sarbanes-Oxley Act*” has the meaning set forth in Section 7.13 of the Agreement.

“SEC” means the U.S. Securities and Exchange Commission.

“Securities Act” means the Securities Act of 1933, as amended.

“Superior Proposal” means any bona fide (i) proposal or offer for a merger, consolidation, dissolution, recapitalization or other business combination involving APNT, (ii) proposal for the issuance by APNT of over 50% of the Common Stock as consideration for the assets or securities of another Person or (iii) proposal or offer (including a merger, tender offer or exchange offer) to acquire in any manner, directly or indirectly, over 50% of the Common Stock or consolidated total assets of APNT, in each case other than the Transactions, made by a third party, and which is otherwise on terms and conditions which the APNT Board or any committee thereof determines in its reasonable judgment (after consultation with financial advisors) to be more favorable to holders of Common Stock than the Transactions.

“Stockholder Approval” has the meaning set forth in Section 10.1(a) of the Agreement.

“Stockholders’ Meeting” has the meaning set forth in Section 10.1(a) of the Agreement.

“Subsidiary” an entity shall be deemed to be a “Subsidiary” of another Person if such Person directly or indirectly owns, beneficially or of record, (a) an amount of voting securities or other interests in such entity that is sufficient to enable such Person to elect at least a majority of the members of such entity’s board of directors or other governing body, or (b) at least 50% of the outstanding equity or financial interests of such entity.

“Tax Return” means all federal, state, local, provincial and foreign Tax returns, declarations, statements, reports, schedules, forms and information returns and any amended Tax return relating to Taxes.

“Taxes” includes all forms of taxation, whenever created or imposed, and whether of the United States or elsewhere, and whether imposed by a local, municipal, governmental, state, foreign, federal or other Governmental Authority, or in connection with any agreement with respect to Taxes, including all interest, penalties and additions imposed with respect to such amounts.

“TBOC” means the Texas Business Organizations Code, as amended.

“Trade Secrets” means all trade secrets under applicable law and other rights in know-how and confidential or proprietary information, processing, manufacturing or marketing information, including new developments, inventions, processes, ideas or other proprietary information that provides advantages over competitors who do not know or use it.

“Transaction Documents” shall have the meaning set forth in Section 11.8 of the Agreement.

“Transactions” has the meaning set forth in Section 5.1 of the Agreement.

“U.S. GAAP” means generally accepted accounting principles of the United States.

“Unaudited Financial Statements” has the meaning set forth in Section 6.7(a) of the Agreement.

“Voting and Conversion Agreements” has the meaning set forth in the Recitals.

“Voting APNT Debt” has the meaning set forth in Section 7.1(c) of the Agreement.

“Voting Nano Debt” has the meaning set forth in Section 6.1(a) of the Agreement.

“Z Units” has the meaning set forth in the preamble of the Agreement.

“Zeiss” has the meaning set forth in the preamble of the Agreement.

VOTING AND CONVERSION AGREEMENT

This VOTING AND CONVERSION AGREEMENT, dated as of this 10th day of March 2014, (the “*Agreement*”), by and among NanoHolding Inc., a Delaware corporation (“*Nano*”), and each of the shareholders and other security holders of APNT identified on the signature pages hereto (each, a “*Sponsor*,” and collectively the “*Sponsors*”). All capitalized terms used but not defined in this Agreement shall have the meanings ascribed to them in the Merger Agreement (as defined below).

WHEREAS, Applied Nanotech Holdings, Inc., a Texas corporation (“*APNT*”), PEN Inc., NanoMerger Sub Inc., Nano and Carl Zeiss, Inc. are entering into an Agreement and Plan of Merger and Exchange of even date (the “*Merger Agreement*”) that provides for the redomestication of APNT into PEN a Delaware corporation and for the merger of NanoMerger Sub Inc. into Nanofilm; and

WHEREAS, in order to induce Nano to enter into the Merger Agreement and as condition to close as provided for therein, Nano and the Sponsors have agreed to enter into this Agreement.

NOW, THEREFORE, in consideration of the covenants, promises and representations set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby expressly and mutually acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

1. REPRESENTATIONS AND WARRANTIES.

Each of the parties hereto, by their respective execution and delivery of this Agreement, hereby represents and warrants to the other party hereto that:

(a) such party has the full right, capacity and authority to enter into, deliver and perform this Agreement;

(b) this Agreement has been duly executed and delivered by such party and is a binding and enforceable obligation of such party, enforceable against such party in accordance with the terms of this Agreement; and

(c) the execution, delivery and performance of such party’s obligations under this Agreement will not require such party to obtain the consent, waiver or approval of any Person and will not violate, result in a breach of, or constitute a default under any statute, regulation, agreement, judgment, consent, or decree by which such party is bound.

2. SHARES SUBJECT TO AGREEMENT

Each Sponsor, severally and not jointly, agrees to vote all of his, her or its voting shares of APNT then owned by such Sponsor, whether now owned or hereafter acquired (hereafter referred to as the “*Voting Shares*”), in accordance with the provisions of this Agreement.

3. OBLIGATIONS TO VOTE VOTING SHARES FOR APPROVAL OF THE MERGER AGREEMENT

At any annual or special meeting called, or in connection with any other action (including the execution of written consents) taken for the purpose of approving the Merger Agreement, the Redomestication Merger, the Nano Merger and any of the transaction or matter contemplated by the Merger Agreement (the “*Merger Events*”), each of the Sponsors agrees to:

(i) vote in favor of the adoption and approval of the Merger Agreement and the Merger Events;

(ii) vote against any proposal made in opposition to, or in competition with, the Merger Agreement and the Merger Events; and

(c) vote against any other action that is intended, or would reasonably be expected to, unreasonably impede, interfere with, delay, postpone, discourage or adversely affect the Merger Agreement and the Merger Events.

4. COVENANT TO VOTE

Each Sponsor shall appear in person or by proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote all Voting Shares owned by such Sponsor, either in person or by proxy, at any annual or special meeting of shareholders of the APNT called for the purpose of voting on and approving the transactions contemplated by the Merger Agreement. In addition, each Sponsor shall appear in person or proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote, or shall execute and deliver a written consent with respect to, all Voting Shares owned by such Sponsor, entitled to vote upon any other matter submitted to a vote of shareholders of the APNT in a manner so as to be consistent and not in conflict with, and to implement, the terms of this Agreement.

5. ADDITIONAL SHARES

If, after the effective date hereof, the Sponsors or any of their affiliates acquire beneficial or record ownership of any additional shares of the APNT (any such shares, “*Additional Shares*”), including, without limitation, upon conversion of any debt or other obligation of APNT into its common stock, exercise of any option, warrant or right to acquire shares of the APNT or through any stock dividend or stock split, the provisions of this Agreement shall thereafter be applicable to such Additional Shares as if such Additional Shares had been held by the Sponsors as of the effective date hereof. The provisions of the immediately preceding sentence shall be effective with respect to Additional Shares without action by any person or entity immediately upon the acquisition by the Sponsors of the beneficial ownership of the Additional Shares. The Sponsors shall require any affiliate that acquires Voting Shares or Additional Shares to vote as the Sponsor is required to vote under this Agreement and shall use reasonable efforts to cause any affiliate that acquires Additional Shares to enter into a written joinder to this Agreement substantially in the form attached hereto as Exhibit A.

6. TRANSFER RESTRICTIONS

Each Sponsor agrees that he, she or it shall not transfer any Voting Shares unless he, she or it shall cause any transferee who acquires such shares to execute and deliver a joinder substantially in the form of Exhibit A hereto to the APNT. Each certificate, if any, representing any shares of the APNT held by either party shall be endorsed with a legend reading substantially as follows:

“THE SHARES EVIDENCED HEREBY ARE SUBJECT TO A VOTING AGREEMENT (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE ISSUER), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF SAID VOTING AGREEMENT.”

7. CONVERSION OF ACCRUED COMPENSATION

(a) Each of the Sponsors listed on the Signature Page to this Agreement hereby acknowledge that APNT owes him, or in the case of Sichuan Anxian Yinhee Chemical and Construction Company (“SAYCC”), its representative, certain accrued compensation related to services rendered as a director as of the date hereof in an amount set forth beneath their respective names on the Signature Page to this Agreement (the “*Accrued Compensation*”). Shareholder acknowledges that no other compensation, stock awards, vacation pay, sick pay or any other money is currently owed to Sponsor related to service as a Director other than (i) out-of-pocket expenses reimbursable to such Sponsor under expense reimbursement policies previously approved by the Board of Directors of APNT, and (ii) for those Directors who served on the Merger Committee the one-time fee that will be paid in stock if and when the closing occurs under the Merger Agreement. Sponsor agrees additional compensation for service as a director will accrue after the date of this Agreement based on the fee schedule attached as Annex A.

(b) Immediately prior to the Nano Merger as defined in the Merger Agreement the Accrued Compensation plus compensation for service as a Director earned after the date hereof until the day of the Redomestication Merger will automatically be converted into shares of PEN’s Class A Common Stock (the “*Class A Common Stock*”) at the Conversion Price. The number of shares of the Class A Common Stock to be issued to the representative of SAYCC and to each individual Sponsor upon conversion shall be determined by dividing (x) the amount due to the Sponsor (or its representative) by (y) the Conversion Price. The “*Conversion Price*” shall be equal to \$0.05 per share.

(c) The obligations of the Sponsors under Section 7(a) and to convert their Accrued Compensation into shares of PEN as provided for in this Section 7 is contingent upon the Closing under the Merger Agreement and in the event the Closing under the Merger Agreement does not occur or such agreement is terminated through no fault of APNT, Sponsor shall have no obligation under this Section 7.

8. TERMINATION

This Agreement shall commence on the date hereof and continue in force and effect until the earlier of (i) the Closing Date of the Merger Agreement, or (ii) the End Date as provided for in the Merger Agreement. Upon the termination of this Agreement, except as otherwise set forth herein, the restrictions and obligations set forth herein shall terminate and be of no further effect, except that such termination shall not affect rights perfected or obligations incurred under this Agreement prior to such termination.

9. GENERAL PROVISIONS

(a) *Notices.* Unless otherwise provided herein, all notices, requests, waivers and other communications made pursuant to this Agreement will be in writing and will be given in accordance with the notice provisions of the Merger Agreement.

(b) *Enforceability; Severability.* The parties hereto agree that each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If one or more provisions of this Agreement are nevertheless held to be prohibited, invalid or unenforceable under applicable law, such provision will be effective to the fullest extent possible excluding the terms affected by such prohibition, invalidity or unenforceability, without invalidating the remainder of such provision or the remaining provisions of this Agreement. If the prohibition, invalidity or unenforceability referred to in the prior sentence requires such provision to be excluded from this Agreement in its entirety, the balance of the Agreement will be interpreted as if such provision were so excluded and will be enforceable in accordance with its terms.

(c) *Entire Agreement.* This Agreement constitutes the entire agreement among the parties with respect to the subject matter hereof.

(d) *Equitable Relief.* The parties hereto recognize that, if such party fails to perform or discharge any of its obligations under this Agreement, any remedy at law may prove to be inadequate relief to the other parties. Each party hereto therefore agrees that the other parties are entitled to seek temporary and permanent injunctive relief and any other equitable remedy a court of competent jurisdiction may deem appropriate in any such case.

(e) *Manner of Voting.* The voting of shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law.

(f) *Governing Law.* This Agreement shall be construed in accordance with, and governed in all respects by, the laws of the State of Delaware.

(g) *Delays or Omissions.* No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, or upon any breach or default of any other party under this Agreement, will impair any such right, power or remedy of such non-breaching or non-defaulting party nor will it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor will any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any provisions or conditions of this Agreement, must be in writing and will be effective only to the extent specifically set forth in such writing. Except as otherwise set forth herein, all remedies, either under this Agreement or by Law or otherwise afforded to any party, will be cumulative and not alternative.

(h) *Counterparts.* This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one instrument.

(i) *Amendments.* Any term of this Agreement may be amended only with the written consent of the parties hereto.

(j) *Controlling Agreement.* To the extent the terms of this Agreement (as amended, supplemented, restated or otherwise modified from time to time) directly conflicts with a provision in the Merger Agreement, the terms of this Agreement shall control.

[Signatures begin on next page.]

IN WITNESS WHEREOF, the Parties hereto have executed or caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

NANOHOLDING INC.

By: _____

Name: Scott E Rickert

Title: President

SPONSORS

SICHUAN ANXIAN YINHEE CHEMICAL AND CONSTRUCTION
COMPANY

By: _____

Its:

Address:

Facsimile:

Its representative: David (Xin) Li

Xin Li

Address:

Facsimile:

Accrued Compensation: \$36,667

Doug Baker

Address:

Facsimile:

Accrued Compensation: none

Paul Rocheleau

Address:

Facsimile:

Accrued Compensation: \$26,335

Robert Ronstadt

Address:

Facsimile:

Accrued Compensation: \$54,977

Howard Westerman

Address:
Facsimile:
Accrued Compensation: \$26,335

Zvi Yaniv

Address:
Facsimile:
Accrued Compensation: none

Ronald Berman

Address:
Facsimile:
Accrued Compensation: \$32,927

Exhibit A

Joinder to Voting Agreement

By execution of this Joinder, the undersigned (the "Sponsor") hereby joins in, agrees to become a party to, be bound by, and subject to, all of the covenants, terms and conditions of that certain Voting Agreement, dated as of March 10, 2014 (as the same may be amended, supplemented or otherwise modified from time to time, the "Voting Agreement"), by and among [_____], a _____ company, and certain of its shareholders in the same manner as if the Sponsor were an original signatory to such Voting Agreement.

The Sponsor shall have all the rights, and shall observe all the obligations, applicable to a Sponsor under the Voting Agreement.

The Sponsor represents and warrants that he/she/it has received a copy of, and has reviewed the terms of, the Voting Agreement.

All questions concerning the construction, validity and interpretation of this Joinder will be governed by and construed in accordance with the internal laws of the state of Delaware.

IN WITNESS WHEREOF, the Sponsor has executed this Joinder as of this ____ day of _____, ____ .

SHAREHOLDER

with copies to:

_____ By:

Address for
Notices:

AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF

PEN INC.

ARTICLE 1

The name of the Corporation is PEN Inc.

ARTICLE 2

The address of the registered office of the Corporation in the State of Delaware is 800 Delaware Ave, City of Wilmington, County of New Castle, Delaware 19801. The name of the Corporation's registered agent at such address is Delaware Corporations LLC.

ARTICLE 3

The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware ("**DGCL**").

ARTICLE 4

Section 4.1. Authorized Capital Stock. The Corporation is authorized to issue four classes of capital stock, designated as Preferred Stock (as defined below), Class A Common Stock (as defined below), Class B Common Stock (as defined below), and Class Z Common Stock (as defined below). The total number of shares of capital stock that the Corporation is authorized to issue is [1,820,000,000], consisting of 20,000,000 shares of Preferred Stock, par value \$0.0001 per share ("**Preferred Stock**"), [1,300,000,000] shares of Class A Common Stock, par value \$0.0001 per share ("**Class A Common Stock**"), [400,000,000] shares of Class B Common Stock, par value \$0.0001 per share ("**Class B Common Stock**"), and [100,000,000] shares of Class Z Common Stock, par value \$0.0001 per share ("**Class Z Common Stock**").

Section 4.2. Preferred Stock. The Preferred Stock may be issued in one or more series. The Board of the Corporation (the "**Board**") is hereby authorized to issue the shares of Preferred Stock in such series and to fix from time to time before issuance thereof the number of shares to be included in any such series and the designation, powers, preferences and relative, participating, optional or other rights, and the qualifications, limitations or restrictions thereof, of such series. The authority of the Board with respect to each such series will include, without limiting the generality of the foregoing, the determination of any or all of the following:

1. the number of shares of any series and the designation to distinguish the shares of such series from the shares of all other series;
2. the voting powers, if any, of the shares of such series and whether such voting powers are full or limited;

3. the redemption provisions, if any, applicable to such series, including the redemption price or prices to be paid;
4. whether dividends, if any, will be cumulative or noncumulative, the dividend rate or rates of such series and the dates and preferences of dividends on such series;
5. the rights of such series upon the voluntary or involuntary dissolution of, or upon any distribution of the assets of, the Corporation;
6. the provisions, if any, pursuant to which the shares of such series are convertible into, or exchangeable for, shares of any other class or classes or of any other series of the same or any other class or classes of stock, or any other security, of the Corporation or any other corporation or other entity, and the rates or other determinants of conversion or exchange applicable thereto;
7. the right, if any, to subscribe for or to purchase any securities of the Corporation or any other corporation or other entity;
8. the provisions, if any, of a sinking fund applicable to such series; and
9. any other relative, participating, optional or other powers, preferences or rights, and any qualifications, limitations or restrictions thereof, of such series;

all as may be determined from time to time by the Board and stated or expressed in the resolution or resolutions providing for the issuance of such Preferred Stock (collectively, a “**Preferred Stock Designation**”).

Section 4.3. Common Stock. Subject to the rights of the holders of any series of Preferred Stock, the powers, preferences and rights, and the qualifications, limitations and restrictions, of the Class A Common Stock, Class B Common Stock, and Class Z Common Stock are as follows:

1. **Dividends**. Subject to the provisions of paragraph 7 of this Section 4.3, holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be entitled to receive such dividends, payable in cash or otherwise, as may be declared thereon by the Board from time to time out of assets or funds of the Corporation legally available therefor to be distributed among and paid ratably, in accordance with the number of shares of Class A Common Stock, Class B Common Stock, and Class Z Common Stock held by each holder, to the holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock.
2. **Liquidation**. Subject to the rights of the holders of any series of Preferred Stock then outstanding, in the event of any dissolution, liquidation or winding up of the affairs of the Corporation, whether voluntary or involuntary, after payment or provision for payment of the debts and other liabilities of the Corporation, the remaining assets and funds of the Corporation shall be divided among and paid ratably, in accordance with the number of shares of Class A Common Stock, Class B Common Stock, and Class Z Common Stock held by each such holder, to the holders of Class A Common Stock, Class B Common Stock, and Class Z Common Stock.

3. **Voting.** Subject to the rights of the holders of any series of Preferred Stock then outstanding, on all matters presented to stockholders, every holder of Class A Common Stock shall be entitled to one vote in person or by proxy for each share of Class A Common Stock held by such holder and every holder of Class B Common Stock shall be entitled to one hundred votes in person or by proxy for each share of Class B Common Stock held by such holder. Holders of Class Z Common Stock shall have the rights set forth in this Amended and Restated Certificate of Incorporation but such Class Z Common Stock shall otherwise be non-voting.

4. **Permitted holders for Class B.** (a) The Corporation may issue shares of Class B Common Stock to the holders of Class B Common Stock in connection with the merger of the Corporation's wholly owned subsidiary with NanoHoldings Inc. (the "**Merger**"), as contemplated by that certain Agreement and Plan of Merger and Exchange, among the Corporation, its wholly-owned subsidiary, NanoHoldings Inc., Applied Nanotech Holdings, Inc., and Carl Zeiss, Inc. (as it may be amended, the "**Merger and Exchange Agreement**"). After the issuance of Class B Common Stock pursuant to the Merger, the Corporation may issue Class B Common Stock only to holders of Class B Common Stock, their Permitted Transferees or as permitted by paragraph 9 of this Section 4.3. No person holding shares of Class B Common Stock (a "**Class B Holder**") may transfer, and the Corporation shall not register the transfer of, such shares of Class B Common Stock, whether by sale, assignment, gift, bequest, appointment or otherwise, except to a Permitted Transferee of such Class B Holder, which term shall have the following meanings:

(i) In the case of the Class B Holder who is a natural person holding record and beneficial ownership of the shares of Class B Common Stock in question, "**Permitted Transferee**" means (A) a lineal descendant of the individuals who on the effective date of the Merger are partners in the limited partnership that is receiving Class B Common Stock in the Merger, (B) a spouse of a lineal descendant of a person described in clause (A), (C) the trustee of a trust (including without limitation a voting trust) for the benefit of one or more of such Class B Holders, any of the persons specified in subclause (A) or (B) of this clause (i), and any organization contributions to which are deductible for federal income, estate or gift tax purposes (hereinafter called a "Charitable Organization"), and for the benefit of no other person, provided that such trust may (x) grant a general or special power of appointment to such Class B Holder or such Class B Holder's spouse, (y) permit trust assets to be used to pay taxes, legacies and other obligations of the trust or the estate of such Class B Holder or such Class B Holder's spouse payable by reason of the death of such Class B Holder or such Class B Holder's spouse, and (z) may hold assets other than shares of Class B Common Stock for the benefit of others who are not Permitted Transferees, (D) a Charitable Organization established by one or more of such Class B Holders, or any of the persons specified in this clause (i), (E) a corporation all of the outstanding capital stock of which is owned by, or a partnership all of the partners of which are, or a limited liability company, all of the members of which are, one or more of such Class B Holders, and any of the persons specified in this clause (i), provided that if any share of capital stock of such a corporation (or of any survivor of a merger, consolidation, conversion (a "**Survivor**") of such a corporation), any partnership interest in such a partnership (or any Survivor of such a partnership) or any membership interest in such a limited liability company (or any Survivor of such a limited liability company) is acquired by any person who is not within such class of persons, all shares of Class B Common Stock then held by such corporation, partnership or limited liability company, as the case may be, shall be deemed without further act on anyone's part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock, and (F) any natural person with respect to whom such Class B Holder would be a Permitted Transferee if such person desired to transfer shares of Class B Common Stock to such Class B Holder.

(ii) In the case of a Class B Holder holding the shares of Class B Common Stock in question as trustee pursuant to a trust other than a trust described in clause (iii) below, “**Permitted Transferee**” means (A) the person or persons who established such trust and (B) a Permitted Transferee of any such person determined pursuant to clause (i) above.

(iii) In the case of a Class B Holder which is a partnership holding record and beneficial ownership of the shares of Class B Common Stock on the record date for the Merger (the “**Record Date**”) in question, “**Permitted Transferee**” means (A) any partner of such partnership, provided that such partner was a partner of such partnership on the Record Date or is a Permitted Transferee of at least one partner who was a partner of such partnership on the Record Date and (B) the Class B Holders who or that transferred the Class B Common Stock to such partnership and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to said partnership, determined pursuant to clause (i) above. If any partnership interest of such a partnership (or of any Survivor of such a partnership), is acquired by any person who is not within such class of persons permitted by clauses (A) or (B) of this subsection (iii), all shares of Class B Common Stock then held by such partnership shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(iv) In the case of a Class B Holder which is a corporation (other than a Charitable Organization described in subclause (D) of clause (i) above) holding record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means (A) any stockholder of such corporation receiving shares of Class B Common Stock through a dividend or redemption or through a distribution made upon liquidation of such corporation, provided that such stockholder was a stockholder of such corporation on the Record Date or is a Permitted Transferee of at least one stockholder who was a stockholder of such corporation on the Record Date, (B) the Survivor of such corporation, provided that each equity owner of each other entity which is a party to such transaction is, at the time of such transaction, a stockholder of such corporation or a Permitted Transferee of at least one stockholder of such corporation, and (C) the Class B Holder who or that transferred the Class B Common Stock to such corporation and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to such corporation, determined pursuant to clause (i) above. If any share of capital stock of such a corporation (or of any Survivor of such a corporation), is acquired by any person who is not within such class of persons permitted by clauses (A), (B) or (C) of this subsection (iv), all shares of Class B Common Stock then held by such corporation shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(v) In the case of a Class B Holder which is a limited liability company holding record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means (A) any member of such limited liability company, provided that such member was a member of such limited liability company on the Record Date or is a Permitted Transferee of at least one member who was a member of such limited liability company on the Record Date, (B) the Survivor of such corporation, provided that each equity owner of each other entity which is a party to such transaction is, at the time of such transaction, a member of such limited liability company or a Permitted Transferee of at least one member of limited liability company, and (C) the Class B Holders who or that transferred the Class B Common Stock to such limited liability company and any Permitted Transferee of such Class B Holder who or that transferred the Class B Common Stock to said limited liability company, determined pursuant to clause (i) above. If any membership interest in such a limited liability company (or of any Survivor of such a limited liability company), is acquired by any person who is not within such class of persons permitted by clauses (A), (B) or (C) of this subsection (v), all shares of Class B Common Stock then held by such limited liability company shall be deemed without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class B Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(vi) In the case of a Charitable Organization, “**Permitted Transferee**” means the person who transferred the shares of Class B Common Stock in question thereto and any Permitted Transferee of such person pursuant to clause (i) above.

(vii) In the case of a Class B Holder which is the estate of a deceased or incompetent Class B Holder, or which is the estate of a bankrupt or insolvent Class B Holder, and provided such deceased, incompetent, bankrupt or insolvent Class B Holder, as the case may be, held record and beneficial ownership of the shares of Class B Common Stock in question, “**Permitted Transferee**” means a Permitted Transferee of such deceased, incompetent, bankrupt or insolvent Class B Holder as determined pursuant to clauses (i), (v) or (vi) above, as the case may be.

(viii) In all events, the Corporation is a Permitted Transferee of Class B Common Stock from any Class B Holder.

(b) Notwithstanding anything to the contrary set forth herein, any Class B Holder may pledge such Holder’s shares of Class B Common Stock to a pledgee pursuant to a bona fide pledge of such shares as collateral security for indebtedness due to the pledgee, provided that such shares shall not be transferred to or registered in the name of the pledgee and shall remain subject to the provisions of this paragraph 4. In the event of foreclosure or other similar action by the pledgee, such pledged shares of Class B Common Stock may only be transferred to a Permitted Transferee of the pledgor or converted into shares of Class A Common Stock, as the pledgee may elect.

(c) For purposes of this paragraph 4:

(i) The relationship of any person that is derived by or through legal adoption prior to age 18 shall be considered a natural one.

(ii) The term “**spouse**” shall include a widow or widower.

(iii) Each joint owner of shares of Class B Common Stock shall be considered a “**Class B Holder**” of such shares.

(iv) A minor for whom shares of Class B Common Stock are held pursuant to a Uniform Gifts to Minors Act or similar law shall be considered a Class B Holder of such shares.

(v) Unless otherwise specified, the term “**person**” means both natural and legal entities.

(vii) The term “**natural person**” in Section 4.3, paragraph 4(a)(i) shall include the estate of such natural person in the event such natural person dies or becomes incompetent, bankrupt or insolvent.

(d) Any purported transfer of shares of Class B Common Stock not permitted hereunder shall be void and of no effect and the purported transferee shall have no rights as stockholder of the Corporation and no other right against or with respect to the Corporation. The Corporation may, as a condition to the transfer or the registration of transfer of shares of Class B Common Stock to a purported Permitted Transferee, require the furnishing of such affidavits or other proof as it deems necessary to establish that such transferee is a Permitted Transferee. The Corporation shall note in a written statement with respect to, or on the certificates for, shares of Class B Common Stock (or in the case of uncertificated shares of Class B Common Stock, on the written notice sent pursuant to Section 151(f) of the DGCL) the restrictions on transfer and registration of transfer imposed by this paragraph 4.

5. Permitted holders, anti-dilutive & other rights for Class Z. (a) The Corporation may issue shares of Class Z Common Stock to Carl Zeiss Inc. (the “Zeiss Stockholder”) in exchange for Class Z Units in Nanofilm, Ltd., an Ohio limited liability company (the “**Exchange**”) under the Merger and Exchange Agreement. After the issuance of Class Z Common Stock pursuant to the Exchange, the Corporation may issue Class Z Common Stock only to holders of Class Z Common Stock, their Permitted Transferees or as permitted by paragraph 9 of this Section 4.3. No person holding shares of Class Z Common Stock (a “**Class Z Holder**”) may transfer, and the Corporation shall not register the transfer of, such shares of Class Z Common Stock, whether by sale, assignment, gift, bequest, appointment or otherwise, except to an entity that is, directly or indirectly, wholly owned by the ultimate parent of the Zeiss Stockholder, and if any equity interest in such a wholly-owned entity (or in a Survivor of such entity) is acquired by any person who is not so controlled, all shares of Class Z Common Stock then outstanding shall without further act on anyone’s part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class Z Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock.

(b) Any purported transfer of shares of Class Z Common Stock not permitted hereunder shall be void and of no effect and the purported transferee shall have no rights as stockholder of the Corporation and no other right against or with respect to the Corporation. The Corporation may, as a condition to the transfer or the registration of transfer of shares of Class Z Common Stock to a purported permitted transferee under this paragraph 5, require the furnishing of such affidavits or other proof as it deems necessary to establish that such transferee is a permitted transferee. The Corporation shall note in a written statement with respect to, or on the certificates for, shares of Class Z Common Stock (or in the case of uncertificated shares of Class Z Common Stock, on the written notice sent pursuant to Section 151(f) of the DGCL) the restrictions on transfer and registration of transfer imposed by this paragraph 5.

(c) If the Corporation issues additional shares or equity rights that are the economic equivalent of the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock or have the right to subscribe for, purchase or acquire, convert into, be exchangeable or exercisable for or otherwise participate in distributions (whether interim or liquidating) with the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock (such shares, together with the Class A Common Stock, Class B Common Stock and Class Z Common Stock, “**Common Equivalents**”), Class Z Holders and their Permitted Transferees are entitled to purchase the Common Equivalents being issued (unless the Common Equivalents include Class B Common Stock or rights that may become Class B Common Stock in which event the Class Z Holders will be entitled to the equivalent economics without regard to voting rights with respect to Class Z Common Stock) to prevent dilution of the Class Z Common Stock (together with any other Common Equivalents held by the Class Z Holders) as a percentage of the total Common Equivalents. Additional Common Equivalents or Class Z Units, as applicable, may be purchased only if and to the extent necessary to ensure that the economic interest of the Class Z Common Stock (together with any other Common Equivalents held by the Class Z Holders) as a percentage of the total of the Common Equivalents of the Corporation will not be diluted. To exercise its rights, a Class Z Holder must notify the Company, not more than 20 days after receiving the notice, whether or not it elects to make a purchase. Unless the Corporation and the Class Z Holder(s) electing to purchase agree otherwise, a purchase under this paragraph will close not more than 10 days after the election or, if later, the day that the other Common Equivalents are issued. The purchase price for the additional shares of Common Equivalents or Class Z Common Stock, as applicable, will be equal to the price for which the Corporation issues the Common Equivalents to others. The antidilutive rights of this paragraph (c) do not apply to (i) the issuance of Class A Common Stock and Class B Common Stock up to 10% of the Common Equivalents in connection with employee compensation programs approved by the Board, or (ii) the issuance of Common Equivalents that do not reduce the outstanding shares of Class Z Common Stock below 8% of the Common Equivalents. The Corporation covenants that it will at all times prior to taking any action that would trigger the rights set forth in this paragraph 5(c) or paragraph 7 of this Section 4.3 ensure that it has reserved and available such number of shares of Class Z Common Stock as shall be necessary for the holders of Class Z Common Stock to exercise their rights hereunder or enjoying their rights under paragraph 7 of this Section 4.3. The Corporation shall not permit any of its direct or indirect subsidiaries to take any action that would circumvent or frustrate the rights of the holders of Class Z Common Stock under this paragraph 5(c) by issuing equity of any subsidiary without offering the Class Z Holders the right to purchase their pro-rata share thereof on the terms described herein.

(d) The holders of Class Z Common Stock are entitled to receive a copy of any notice sent to the holders of Class A Common Stock or Class B Common Stock, as and when the notice is sent to such holders.

(e) If the Class Z Holders have converted into shares of Class A Common Stock more than one-half of the shares of Class Z Common Stock issued in the Exchange (as that number may have been adjusted under paragraph 7 of this Section 4.3) then all shares of Class Z Common Stock then outstanding shall without further act on anyone's part to be converted into shares of Class A Common Stock, and stock certificates, if any, formerly representing such shares of Class Z Common Stock shall thereupon and thereafter be deemed to represent the like number of shares of Class A Common Stock, mutatis mutandis.

6. Conversion of Class B or Class Z into Class A. (a) Each share of Class B Common Stock and each share of Class Z Common Stock may at any time, at the option of the holder, be converted into one fully paid and nonassessable share of Class A Common Stock. Such right shall be exercised by the delivery by the holder to the Corporation at any time during normal business hours at the principal executive offices of the Corporation, or if an agent for the registration of transfer of shares of Class B Common Stock or Class Z Common Stock is then duly appointed and acting (said agent being hereinafter called the "**Transfer Agent**") then at the office of the Transfer Agent, of a written notice of the election by the holder thereof to convert such share of Class B Common Stock or Class Z Common Stock and (if so required by the Corporation or the Transfer Agent) instruments of transfer, in form satisfactory to the Corporation and to the Transfer Agent, duly executed by such holder or his duly authorized attorney, and transfer tax stamps or funds therefor, if required pursuant to subparagraph (e) below, accompanied by the certificate, if any, representing such share of Class B Common Stock or Class Z Common Stock or, in lieu thereof, an affidavit that the certificate has been lost, stolen or destroyed in a form reasonably requested by the Corporation which may include an indemnity by which the holder indemnifies the Corporation against any claim that may be made against it relating to the missing certificate.

(b) As promptly as practicable after the (i) delivery of the notice of election to convert shares of Class B Common Stock or Class Z Common Stock and the related documentation as contemplated by and in the manner provided in subparagraph (a) above, (ii) if applicable, surrender for conversion of a certificate representing such shares in the manner provided in subparagraph (a) above, and (iii) payment in cash of any amount required by the provisions of subparagraphs (a) and (e), the Corporation shall deliver or cause to be delivered to the office of the Transfer Agent upon the written order of the holder of such shares uncertificated shares, or upon request, a certificate or certificates, representing the number of full shares of Class A Common Stock issuable upon such conversion, issued in such name or names as such holder may direct. Such conversion shall be deemed to have been made immediately prior to the close of business on the date of the last to occur of (i), (ii) and (iii) above, and all rights of the holder of such shares as such holder shall cease at such time (other than rights to any declared but unpaid dividends) and the person or persons in whose name or names the shares of Class A Common Stock are to be issued shall be treated for all purposes as having become the record holder or holders of such shares of Class A Common Stock at such time; **except**, that any holder who makes such delivery, surrender and payment on any date when the stock transfer books of the Corporation shall be closed shall constitute the person or persons in whose name or names shares of Class A Common Stock are to be issued as the record holder or holders thereof for all purposes immediately prior to the open of business on the next succeeding day on which such stock transfer books are open.

(c) No adjustments in respect of dividends shall be made upon the conversion of any share of Class B Common Stock or Class Z Common Stock, **except** that if a share shall be converted subsequent to the record date for determining the identity of the holder thereof entitled to payment of a dividend or other distribution on shares of Class B Common Stock or Class Z Common Stock but prior to such payment, the registered holder of such share at the close of business on such record date shall be entitled to receive the dividend or other distribution payable on such share on such date notwithstanding the conversion thereof or the Corporation's default in payment of the dividend due on such date.

(d) The Corporation covenants that it will at all times reserve and keep available, solely for the purpose of issue upon conversion of the outstanding shares of Class B Common Stock and Class Z Common Stock, such number of shares of Class A Common Stock as shall be issuable upon the conversion of all such outstanding shares, provided, that nothing contained herein shall be construed to preclude the Corporation from satisfying its obligations in respect of the conversion of the outstanding shares of Class B Common Stock or Class Z Common Stock by delivery of purchased shares of Class A Common Stock which are held in the treasury of the Corporation. The Corporation covenants that if any shares of Class A Common Stock, required to be reserved for purposes of conversion hereunder, require registration with or approval of any governmental authority under any federal or state law before such shares of Class A Common Stock may be issued upon conversion, the Corporation will use its best efforts to cause such shares to be duly registered or approved, as the case may be. The Corporation covenants that all shares of Class A Common Stock will, upon issue, be fully paid and nonassessable and not subject to any preemptive rights.

(e) The issuance of shares of Class A Common Stock upon conversion of shares of Class B Common Stock or upon conversion of shares of Class Z Common Stock shall be made without charge for any stamp or other similar tax in respect of such issuance which, to the extent applicable, shall be paid by the Corporation. However, if any such shares are to be issued in a name other than that of the holder of the shares of Class B Common Stock or Class Z Common Stock converted, the person or persons requesting the issuance thereof shall pay to the Corporation the amount of any tax which may be payable in respect of any transfer involved in such issuance or shall establish to the reasonable satisfaction of the Corporation that such tax has been paid or is not required to be paid..

7. Share distributions or splits. Each share of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be equal in respect of rights to dividends and other distributions in cash, stock or property of the Corporation, provided that in the case of dividends or other distributions payable in stock of the Corporation, including distributions pursuant to stock split-ups or divisions of stock of the Corporation, or any other distributions of stock of any subsidiary of the Corporation only shares of Class A Common Stock shall be distributed with respect to Class A Common Stock, only shares of Class B Common Stock shall be distributed with respect to Class B Common Stock, and only shares of Class Z Common Stock shall be distributed with respect to Class Z Common Stock. Without limiting the foregoing, if there is a stock split, reverse stock split or similar reorganization affecting the Class A Common Stock, the Class B Common Stock or the Class Z Common Stock, the number of shares of Class A Common Stock, Class B Common Stock and Class Z Common Stock shall each be increased or decreased proportionately.

8. **Merger, Conversion or Sale.** In case of any consolidation, merger, conversion, or sale of all or substantially all of the assets of the Corporation as a result of which stockholders of the Corporation shall be entitled to receive cash, stock, other securities or other property with respect to or in exchange for their stock of the Corporation, each holder of Class A Common Stock, Class B Common Stock, and Class Z Common Stock shall be entitled to receive, with respect to each share, (A) an equal amount of consideration, (B) the same form of consideration, and (C) voting and other rights consistent with those held under this Amended and Restated Certificate of Incorporation prior to the consolidation, merger, conversion or sale.

9. **Retirement after conversion, special vote for new Class B or Class Z shares.** Except (i) as otherwise provided in paragraph 5 of this Section 4.3, (ii) pursuant to compensation programs for employees of the Corporation (or its direct or indirect subsidiaries) resulting in the issuance of Class B Common Stock to Permitted Holders of such shares for a value not less than the value of a share of Class A Common Stock on the date of grant or issuance, and (iii) as approved by the affirmative vote of the holders of a majority of the voting power of the outstanding voting stock voting together as a single class, the Corporation shall not issue additional shares of Class B Common Stock or of Class Z Common Stock after the date of the Merger and Exchange and all shares of Class B Common Stock or Class Z Common Stock surrendered for conversion or otherwise acquired by the Corporation shall be retired.

10. **Vote to Increase Authorized Shares.** The number of authorized shares of any class or classes of stock of the Corporation may be increased or decreased (but not below the total number of shares thereof then outstanding plus those reserved as required by this Amended and Restated Certificate of Incorporation) by the affirmative vote of the holders of a majority of the outstanding voting stock of the Corporation entitled to vote thereon irrespective of the provisions of Section 242(b)(2) of the DGCL (or any successor provision thereto).

12. **Record Owner.** The Corporation shall be entitled to treat the person in whose name any share of its stock is registered as the owner thereof for all purposes, and shall not be bound to recognize any equitable or other claims to, or interest in, such share on the part of any other person, whether or not the Corporation shall have notice thereof, except as expressly provided by applicable law.

ARTICLE 5

Section 5.1. Number, Election and Terms of Directors. (a) Subject to the rights, if any, of the holders of any series of Preferred Stock to elect additional Directors under circumstances specified in a Preferred Stock Designation and the rights, if any, of the holders of Class Z Common Stock described in paragraph (b) of this section 5.1, (i) the number of the Directors of the Corporation will not be less than one, except that the number will be not less than three so long as the holders of Class Z Common Stock have the right to designate a director under paragraph (b) of this Section 5.1, and (ii) subject to clause (i), the authorized number of Directors may be determined from time to time only by a vote of a majority of the total number of Directors then in office. Election of directors need not be by written ballot.

(b) So long as Class Z Common Shares have not all been converted into Class A Common Shares under paragraph 5 or 6 of section 4.3 the holders of Class Z Common Shares may designate an individual to serve as a director of the Corporation and any vacancy in that position shall be filled only by the Class Z Holders. If the Class Z Holders no longer have the right to designate a director, any director designated by the Class Z Holders will (without any further action) be removed from office.

Section 5.2. Nomination of Director Candidates. Advance notice of stockholder nominations for the election of Directors must be given in the manner provided in the Bylaws of the Corporation.

Section 5.3. Removal. Subject to the rights, if any, of the holders of any series of Preferred Stock to elect additional Directors under circumstances specified in a Preferred Stock Designation, any Director (other than a Director designated by the holders of Class Z Common Shares who may be removed by, and only by, those holders (with or without cause) or as described in Section 5.1(b)) may be removed from office by the stockholders with or without cause.

ARTICLE 6

The affirmative vote of the holders of at least a majority of the quorum, voting together as a single class, is required to amend or repeal this Amended and Restated Certificate of Incorporation. In addition, the affirmative vote of the holders of at least 50% of the outstanding shares of Class Z Common Stock is required for any amendment, repeal or change to: (i) Section 5.1(b) or to the parenthetical phrase of Section 5.3; (ii) the distribution provisions of paragraphs 1 and 2 of Section 4.3; (iii) paragraphs 5, 6, 7 and 8 of Section 4.3; (iv) Article 10; (v) to create other differences under this Amended and Restated Certificate to the rights, powers, duties or restrictions applicable to the Class Z Common Stock and either the Class A Common Stock or the Class B Common Stock; or (vi) this sentence.

The Board may make, amend and repeal the Bylaws of the Corporation. Any Bylaw made by the Board under the powers conferred hereby may be amended or repealed by the Board (except as specified in any such Bylaw so made or amended) or by the stockholders in the manner provided in the Bylaws of the Corporation.

ARTICLE 7

To the fullest extent permitted by the DGCL or any other applicable laws as presently or hereafter in effect, no member of the Board shall be personally liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director with respect to any acts or omissions in the performance of his or her duties as a member of the Board. No amendment to or repeal of this Article 7 shall apply to or have any effect on the liability or alleged liability of any member of the Board for or with respect to any acts or omissions of such member occurring prior to such amendment or repeal.

ARTICLE 8

Section 8.1. Right to Indemnification. The Corporation shall indemnify to the fullest extent permitted by the DGCL, as it now exists or may be amended, any current or former director or officer of the Corporation who is made, or threatened to be made, a party to or is otherwise involved in an action, suit or proceeding, whether civil, criminal, administrative, investigative or other (including an action, suit or proceeding by or in the right of the Corporation) (collectively, a “**proceeding**”), by reason of the fact that such person is or was a director or officer of the Corporation or an administrator or fiduciary with respect to any employee benefit plan of the Corporation, or serves or served at the request of the Corporation as a director, officer, employee or agent, or as an administrator or fiduciary of an employee benefit plan, of another corporation, partnership, joint venture, trust or other enterprise (a “**beneficiary**”) against all expense, liability and loss (including attorneys’ fees, judgments, fines, Employee Retirement Income Security Act of 1974 (or comparable non-U.S. law) excise taxes or penalties and amounts paid in settlement) reasonably incurred or suffered by such beneficiary in connection therewith; **except** that the Corporation shall indemnify any such beneficiary in connection with a proceeding (or part thereof) initiated by such beneficiary only if such proceeding (or part thereof) was authorized by the Board or is initiated to enforce a beneficiary’s rights under this Section 8.1 or Section 8.2. No amendment to this Article 8 that limits the Corporation’s obligation to indemnify any person shall have any effect on such obligation for any act or omission that occurs prior to the later of the effective date of the amendment or the date notice of the amendment is given to the person.

Section 8.2. Right to Advancement of Expenses. The rights granted under Section 1 of this Article 8 shall include the right to be paid by the Corporation the expenses (including, without limitation, attorneys' fees and expenses) incurred in defending any such proceeding in advance of its final disposition (an "**advancement of expenses**"); **except** that, if the DGCL so requires, an advancement of expenses incurred by a beneficiary in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such beneficiary, including, without limitation, service to an employee benefit plan) shall be made only upon delivery to the Corporation of an undertaking, by or on behalf of such beneficiary, to repay all amounts so advanced if it shall ultimately be determined by final judicial decision from which there is no further right to appeal that such beneficiary is not entitled to be indemnified for such expenses under this Section 2 or otherwise. The rights to indemnification and to the advancement of expenses conferred in Sections 8.1 and 8.2 shall be contract rights and such rights shall continue as to a beneficiary who has ceased to be a director or officer and shall inure to the benefit of the beneficiary's heirs, executors and administrators. No amendment to this Article 8 that limits the Corporation's obligation regarding advancement of expenses shall have any effect on that right for a claim arising out of an act or omission that occurs prior to the date of the amendment.

Section 8.3. Indemnification of Employees and Agents of the Corporation. The Corporation may, to the extent authorized from time to time by the Board, grant rights to indemnification and to the advancement of expenses to any employee or agent of the Corporation or an administrator or fiduciary with respect to any employee benefit plan to the fullest extent of the provisions of this Article 8 with respect to the indemnification and advancement of expenses of directors and officers of the Corporation.

Section 8.4. Non-Exclusivity of Rights. Any indemnification or advancement of expenses made pursuant to this Article 8 shall not be exclusive of any other right that any person may have or hereafter acquire under any statute, this Amended and Restated Certificate of Incorporation, the Bylaws or any agreement, vote of stockholders or disinterested directors or otherwise.

Section 8.5. Insurance. The Corporation may maintain insurance, at its expense, to protect itself and any director, officer, employee or agent of the Corporation or another corporation, partnership, joint venture, trust or other enterprise against any expense, liability or loss, whether or not the Corporation would have the power to indemnify such person against such expense, liability or loss under the DGCL.

ARTICLE 9

Unless the Corporation consents in writing to the selection of an alternative forum, the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Corporation, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Corporation to the Corporation or the Corporation's stockholders, (iii) an action asserting a claim arising pursuant to any provision of the DGCL, or (iv) any action asserting a claim governed by the internal affairs doctrine shall be a state or federal court located within the state of Delaware, in all cases subject to the court's having personal jurisdiction over the indispensable parties named as defendants.

ARTICLE 10

To the fullest extent permitted by Section 122(17) of the DGCL (or any successor provision) and except as may be otherwise expressly agreed in writing by the Corporation and the Zeiss Stockholder, the Corporation, on behalf of itself and its subsidiaries, renounces any interest or expectancy of the Corporation and its subsidiaries in, or in being offered an opportunity to participate in, business opportunities, that are from time to time presented to the Zeiss Stockholder or to any of its controlled affiliates or to any of their designees on the Corporation's Board of Directors, even if the opportunity is one that the Corporation or its subsidiaries might reasonably be deemed to have pursued or had the ability or desire to pursue if granted the opportunity to do so, and no such person shall be liable to the Corporation or any of its subsidiaries for breach of any fiduciary or other duty, as a director or otherwise, by reason of the fact that such person pursues or acquires the business opportunity, directs the business opportunity to another person or fails to present the business opportunity, or information regarding the business opportunity, to the Corporation or its subsidiaries unless, in the case of any such person who is a director of the Corporation, the business opportunity is (i) first presented to that individual by the Corporation in good faith in connection with its operations or strategic activities, or (ii) expressly offered to such director in writing solely in his or her capacity as a director of the Corporation; provided, that, in no event shall the foregoing subclauses (i) or (ii) be deemed to expand, and they shall only apply to the extent of, the duties such person would otherwise have under Delaware law. Any person purchasing or otherwise acquiring any interest in any shares of stock of the Corporation shall be deemed to have notice of and consented to the provisions of this Article 10. Neither the alteration, amendment or repeal of this Article 10, nor the adoption of any provision of this Amended and Restated Certificate of Incorporation inconsistent with this Article 10, nor, to the fullest extent permitted by Delaware law, any modification of law, shall eliminate or reduce the effect of this Article 10 in respect of any business opportunity first identified or any other matter occurring, or any cause of action, suit or claim that, but for this Article 10, would accrue or arise, prior to the alteration, amendment, repeal, adoption or modification. If any provision or provisions of this Article 10 shall be held to be invalid, illegal or unenforceable as applied to any circumstance for any reason whatsoever: (a) the validity, legality and enforceability of such provisions in any other circumstance and of the remaining provisions of this Article 10 (including, without limitation, each portion of any paragraph of this Article 10 containing any such provision held to be invalid, illegal or unenforceable that is not itself held to be invalid, illegal or unenforceable) shall not in any way be affected or impaired thereby and (b) to the fullest extent possible, the provisions of this Article 10 (including, without limitation, each such portion of any paragraph of this Article 10 containing any such provision held to be invalid, illegal or unenforceable) shall be construed so as to permit the Corporation to protect its directors from personal liability in respect of their good faith service to or for the benefit of the Corporation to the fullest extent permitted by law. This Article 10 shall not limit any protections or defenses available to, or indemnification or advancement rights of, any director of the Corporation under this Amended and Restated Certificate of Incorporation, the Corporation's Bylaws, any other agreement between the Corporation and such director or applicable law.

**BYLAWS OF
PEN INC.**

1. OFFICES & AGENT

Section 1.01. Registered Office and Agent. The Corporation shall have and continuously maintain a registered office and registered agent in accordance with the Delaware General Corporation Law (“DGCL”).

Section 1.02 Other Offices. The Corporation may have offices at such place or places within or without the State of Delaware as the Board of Directors may from time to time appoint or the business of the Corporation may require or make desirable.

2. SHAREHOLDERS’ MEETINGS

Section 2.01. Place of Meetings. All meetings of the shareholders shall be held at a place or in a manner as may be fixed from time to time by the Board of Directors.

Section 2.02. Annual Meetings. An annual meeting of the shareholders shall be held at such date and time as may be fixed by resolution of the Board of Directors for the purpose of electing Directors and transacting such other business as may properly be brought before the meeting.

Section 2.03. Special Meetings. Special meetings of the shareholders, for any purpose or purposes, unless otherwise prescribed by the DGCL or the Certificate of Incorporation, may be called by the Chairman of the Board (the “Chairman”) or the Corporation’s Chief Executive Officer; and shall be called by the Chairman or the Secretary: (i) when so directed by the Board of Directors, or (ii) at the written request of shareholders owning shares representing at least twenty-five percent of voting power of the Corporation in the election of Directors. A request for a special meeting shall state the purpose or purposes of the proposed meeting.

Section 2.04. Notice of Meetings. Except as otherwise required or permitted by the DGCL or the Certificate of Incorporation, written notice of each meeting of the shareholders, whether annual or special, shall be served either personally, by mail or electronic transmission, upon each shareholder of record entitled to vote at such meeting, not less than 10 nor more than 60 days before such meeting. If mailed or sent by electronic transmission, such notice shall be directed to a shareholder at the shareholder’s post office address or electronic address last shown on the records of the Corporation. Notice of any special meeting of shareholders shall state the purpose or purposes for which the meeting is called. Notice of any meeting of shareholders shall not be required to be given to any shareholder who, in person or by his attorney thereunto authorized, either before or after such meeting, shall waive such notice by means of a signed writing. Attendance of a shareholder at a meeting, either in person or by proxy, shall of itself constitute waiver of notice and waiver of any and all objections to the place of the meeting, the time of the meeting, and the manner in which it has been called or convened, except when a shareholder attends a meeting solely for the purpose of stating, at the beginning of the meeting, any such objection or objections to the transaction of business. Notice of any adjourned meeting need not be given otherwise than by announcement at the meeting at which the adjournment is taken.

Section 2.05. Quorum. Shareholders owning shares entitling them to exercise at least one third of the voting power in the election of directors shall constitute a quorum at any meeting of the shareholders for the transaction of business, except as otherwise provided by the DGCL, by the Certificate of Incorporation, or by these Bylaws. If, however, the required number shall not be present or represented at any meeting of the shareholders, the shareholders present and entitled to vote shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present. At any adjourned meeting at which a quorum is present any business may be transacted that might have been transacted at the meeting as originally called.

Section 2.06. Voting. If a quorum exists, action on a matter by the shareholders (other than the election of Directors) is approved if the votes cast by the holders of the shares represented at the meeting and entitled to vote on the subject matter favoring the action exceed the votes cast opposing the action (with 'abstentions' and 'broker non-votes' not counted as a vote cast with respect to that matter), unless a greater number of affirmative votes is required by the Certificate of Incorporation or is mandatory under the DGCL. Unless otherwise provided in the Certificate of Incorporation, Directors are elected by a plurality of the votes cast by the shares entitled to vote in the election at a meeting at which a quorum is present (with 'abstentions' and 'broker non-votes' not counted as a vote cast with respect to that director).

Section 2.07. Conduct of Meetings. The Chairman of the Board of Directors, or in his absence the Chief Executive Officer, or in their absence a person appointed by the Board of Directors, shall preside at meetings of the shareholders. The Secretary of the Corporation, or in the Secretary's absence, any person appointed by the individual presiding at the meeting shall act as Secretary for meetings of the shareholders. Meetings shall be governed by procedures prescribed by the person presiding at the meeting or by the Board so long as they are not inconsistent with these Bylaws.

Section 2.08. Written Consents. Any action required or permitted to be taken at a meeting of the shareholders of the Corporation may be taken without a meeting if written consent, setting forth the action so taken, shall be signed by persons who would be entitled to vote at a meeting with the voting power necessary to authorize or take such action at a meeting at which all shares entitled to vote were present and voted.

3. BOARD OF DIRECTORS

Section 3.01. Authority. The property and business of the Corporation shall be managed by its Board of Directors. In addition to the powers and authority expressly conferred by these Bylaws, the Board of Directors may exercise all powers of the Corporation and do all such lawful acts and things as are not by the DGCL, by the Certificate of Incorporation, or by these Bylaws directed or required to be exercised or done by the shareholders.

Section 3.02. Number and Term. The Board of Directors shall consist of a set number of members to be fixed by a resolution of the Board of Directors from time to time. Except as provided in the Certificate of Incorporation, each Director (whether elected at an annual meeting of shareholders or otherwise) shall hold office until the annual meeting of shareholders held next after this election, and until a successor shall be elected and qualified, or until his earlier death, resignation, incapacity to serve, or removal. Directors need not be shareholders.

Section 3.03. Vacancies. A vacancy on the Board of Directors shall exist upon the death, resignation, removal, or incapacity to serve of any Director; upon the increase in the number of authorized Directors; and upon the failure of the shareholders to elect the full number of Directors authorized. During a vacancy or vacancies, the remaining Directors shall continue to act. Except as required by the Certificate of Incorporation, vacancies may be filled by the Directors, at any meeting held during the existence of such vacancy. Any Director appointed by the Board of Directors to fill a vacancy, shall serve as a Director until the next annual meeting of the shareholders.

Section 3.04. Place of Meetings. The Board of Directors may hold its meetings at any place or places within or without the State of Delaware or by remote communication.

Section 3.05. Compensation of Directors. Directors may be allowed such compensation for attendance at regular or special meetings of the Board of Directors and of any special or standing committees of the Board of Directors as may from time to time be determined by the Board of Directors.

Section 3.06. Qualifications. No person shall qualify for service as a Director if he or she is a party to any compensatory, payment or other financial agreement, arrangement or understanding with any person or entity other than the Corporation, or has received any such compensation or other payment from any person or entity other than the Corporation, in each case in connection with candidacy or service as a director of the Corporation. Agreements providing only for indemnification and/or reimbursement of out-of-pocket expenses in connection with candidacy as a director (but not, for the avoidance of doubt, in connection with service as a director) and any pre-existing employment agreement a candidate has with his or her employer (not entered into in contemplation of the employer's investment in the Corporation or such employee's candidacy as a director), shall not be disqualifying under this bylaw.

Section 3.07. Resignation. Any Director may resign by giving written notice to the Board of Directors. The resignation shall be effective on receipt, unless the notice specifies a later time for the effective date. If the resignation is effective at a future time, a successor may be elected before that time to take office when the resignation becomes effective.

Section 3.08. Removal. Except as stated in the Certificate of Incorporation, the Shareholders may declare the position of a Director vacant, and may remove such Director for cause if the Director has been declared of unsound mind by a final order of court; the Director has been convicted of a felony; the Director has failed to attend at least 75% of the meetings of the Board during a twelve month period or the Director has been presented with one or more written charges, has been given at least ten days' notice of a hearing at which he may have legal counsel present, and has been given opportunity for such a hearing at a meeting of the Shareholders. Except as stated in the Certificate of Incorporation, the Shareholders may also declare the position of a Director vacant, and may remove such Director without cause, by a majority vote cast by the shares entitled to vote at a meeting at which a quorum is present.

Section 3.09. Notice of Meetings. Regular meetings of the Board of Directors may be held at such time and place within or without the State of Delaware as shall from time to time be determined by the Board of Directors by resolution, and that resolution, without more, will constitute notice

Section 3.10. Special Meetings. Special meetings of the Board of Directors may be called by the Chairman of the Board or the Chief Executive Officer on not less than one day's notice by mail, electronic transmission or personal delivery to each Director and shall be called by the Chairman of the Board, the Chief Executive Officer, or the Secretary in like manner and on like notice on the written request of any four or more Directors.

Section 3.11. Notice - Purpose of Meeting. No notice of any special meeting of the Board of Directors need state the purposes for the meeting, and notice is sufficient if it states the time and place or manner of participating in the meeting and the person or persons calling such meeting.

Section 3.12. Quorum. At all meetings of the Board of Directors, the presence of a majority of the Directors then serving shall be necessary and sufficient to constitute a quorum for the transaction of business. The act of a majority of the Directors present at any meeting at which there is a quorum shall be the act of the Board of Directors, except as may be otherwise specifically required by the DGCL, by the Certificate of Incorporation or by these Bylaws. In the absence of a quorum, a majority of the Directors present at any meeting may adjourn the meeting from time to time until a quorum is present. Notice of my adjourned meeting need only be given by announcement at the meeting at which the adjournment is taken.

Section 3.13. Telephonic Participation. Directors may participate in meetings of the Board of Directors through use of conference telephone or other remote communications equipment, so long as all Directors participating in the meeting can hear and speak to each other. Such participation is equivalent to personal presence at the meeting.

Section 3.14. Action by Written Consent. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if a written consent is signed by all members of the Board or of such committee, as the case may be, and the written consent is filed with the minutes of the proceedings of the Board or committee.

4. COMMITTEES OF THE BOARD

Section 4.01. Executive Committee. The Board of Directors may, by resolution adopted by a majority of the entire Board, designate an Executive Committee of three or more Directors. Each member of the Executive Committee shall hold office until the first meeting of the Board of Directors after the annual meeting of the shareholders next following his election and until his successor member of the Executive Committee is elected, or until his death, resignation, removal, or until he shall cease to be a Director.

Section 4.02. Executive Committee-Powers. During the intervals between the meetings of the Board of Directors, the Executive Committee may exercise all the powers of the Board of Directors in the management of the business affairs of the Corporation, including all powers specifically granted to the Board of Directors by these Bylaws or by the Certificate of Incorporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it; provided, however, that the Executive Committee shall not have the power to amend or repeal any resolution of the Board of Directors that by its terms does not provide for amendment or repeal by the Executive Committee, and the Executive Committee shall not have the authority of the Board of Directors in reference to (i) approving or adopting, or recommending to the stockholders, any action or matter (other than the election or removal of directors) expressly required by the DGCL to be submitted to stockholders for approval or (ii) adopting, amending or repealing any of these Bylaws.

Section 4.03. Executive Committee-Meetings. The Executive Committee shall meet from time to time on call of the Chairman of the Board, the Chief Executive Officer, or of any two or more members of the Executive Committee. Meetings of the Executive Committee may be held at such place or places, within or without the State of Delaware, as the Executive Committee shall determine or as may be specified or fixed in the respective notices of such meetings. The executive Committee may fix its own rules of procedure, including provision for notice of its meetings, shall keep a record of its proceedings, and shall report these proceedings to the Board of Directors at the meeting thereof held next after such meeting of the Executive Committee. All such proceedings shall be subject to revision or alteration by the Board of Directors except to the extent that action shall have been taken pursuant to or in reliance upon such proceedings prior to any such revision or alteration. The Executive Committee shall act by majority vote of its members.

Section 4.04. Executive Committee-Alternate Members. The Board of Directors, by resolution adopted in accordance with Section 4.01, may designate one or more Directors as alternate members of the Executive Committee, who may act in the place and stead of any absent member or members at any meeting of such committee.

Section 4.05. Other Committees. The Board of Directors, by resolution adopted by a majority of the entire Board, may designate one or more additional committees, each committee to consist of one or more of the Directors of the Corporation, which shall have such name or names and shall have and may exercise such powers of the Board of Directors in the management of the business and affairs of the Corporation, except the powers denied to the Executive Committee, as may be determined from time to time by the Board of Directors.

Section 4.06. Removal of Committee Members. The Board of Directors shall have power at any time to remove any or all of the members of any committee, with or without cause, and to fill vacancies in and to dissolve any committee.

5. OFFICERS

Section 5.01. Election of Officers. The Board of Directors, at its first meeting after each annual meeting of shareholders, shall elect a Chief Executive Officer and may elect such other Officers as it shall deem necessary who shall hold their offices for such terms as shall be determined by the Board of Directors, and shall exercise such powers and perform such duties as shall be determined from time to time by the Board of Directors or the Chairman of the Board.

Section 5.02. Compensation. The salaries of the Officers of the Corporation shall be fixed by the Board of Directors, except that the Board of Directors may delegate to any Officer or Officers the power to fix the compensation of any Officer.

Section 5.03. Term. Removal. Resignation. Each Officer of the Corporation shall hold office until his successor is chosen or until his earlier resignation, death, removal, or termination of his office. Any Officer may be removed with or without cause by a majority vote of the Board of Directors whenever in its judgment the best interests of the Corporation will be served thereby. Any Officer may resign by giving written notice to the Board of Directors. The resignation shall be effective upon receipt, or at such time as may be specified in such notice.

Section 5.04. Chairman of the Board. The Chairman of the Board shall be the Chief Executive Officer of the Corporation and shall have general and active management of the business of the Corporation and shall see that all orders and resolutions of the Board of Directors are carried into effect. He shall be ex officio a member of all standing committees, unless otherwise provided in the resolution appointing the same. The Chairman of the Board shall determine the meeting agenda, call meetings of the shareholders, the Board of Directors, and the Executive Committee to order and shall act as chairman of such meetings.

Section 5.05. Chief Executive Officer. When no Chairman of the Board has been elected, or if a Chairman has been elected and not declared to be the Chief Executive Officer, or in the event of the death or disability of the Chairman of the Board or at his request, the Chief Executive Officer (if such an officer is appointed) shall have all of the powers and perform the duties of the Chairman of the Board. The Chief Executive Officer shall also have such powers and perform such duties as are specifically imposed upon him by law and as may be assigned to him by the Board of Directors or the Chairman of the Board. In the absence of a Chairman of the Board serving as Chief Executive Officer, the Chief Executive Officer shall determine the meeting agenda, call meetings of the shareholders, the Board of Directors, and the Executive Committee to order and shall act as chairman of such meetings. If no other Officers are elected, the Chief Executive Officer shall also have all of the powers and perform the duties of Secretary and Treasurer.

Section 5.06. Secretary. The Secretary shall attend all meetings of the Board of Directors, all meetings of the shareholders, and record all votes and the minutes of all proceedings in books to be kept for that purpose, and shall perform like duties for the standing committees when required. He shall give, or cause to be given, any notice required to be given of any meetings of the shareholders and of the Board of Directors. The Assistant Secretary or Assistant Secretaries shall, in the absence or disability of the Secretary, or at the Secretary's request, perform the duties and exercise the powers and authority granted to the Secretary.

Section 5.07. Treasurer. The Treasurer shall have charge and be responsible for all funds, securities, receipts, and disbursements of the Corporation; he shall render to the Chairman of the Board, the Chief Executive Officer, and to the Board of Directors, whenever requested, an account of the financial condition of the Corporation, and in general, he shall perform all the duties incident to the office of a treasurer of a Corporation, and such other duties as may be assigned to him by the Chairman of the Board, or the Chief Executive Officer.

Section 5.08. Duties. Except as otherwise provided in this Article 5, the corporate officers of the Corporation elected to office by the Board of Directors shall have such powers and perform such duties incident to each of their respective offices and such other duties as may from time to time be conferred upon or assigned to them by the Board of Directors.

6. CAPITAL STOCK

Section 6.01. Share Certificates. Unless the Certificate of Incorporation otherwise provides, or unless the Board of Directors provides by resolution or resolutions that some or all of the shares of any class or classes, or series thereof, of the Corporation's capital stock shall be certificated, the Corporation shall not issue certificates to evidence shares of stock in the Corporation. If under the preceding sentence shares of any class or classes of the Corporation's capital stock are to be certificated, the interest of each shareholder shall be evidenced by a certificate or certificates representing shares of stock of the Corporation in such form as the Board of Directors may from time to time adopt. The certificates shall be consecutively numbered, and the issuance of shares shall be duly recorded in the books of the Corporation as they are issued. Each certificate shall indicate the holder's name, the number of shares, the class of shares and series, if any, represented thereby, a statement that the Corporation is organized under the laws of the State of Delaware, and the par value of each share or a statement that the shares are without par value. Each certificate shall be signed by (i) the Chairman of the Board, the Chief Executive Officer, or the President (if any) and (ii) the Treasurer, Assistant Treasurer, Secretary or Assistant Secretary, if such officer or officers have been elected or appointed by the Corporation, and shall be sealed with the seal of the Corporation; *except* that if such certificate is signed by a transfer agent, or by a transfer clerk acting on behalf of the Corporation, and a registrar, the signature of any Officer of the Corporation, whether because of death, resignation, or otherwise, prior to the delivery of such share certificate by the Corporation, such certificate may nevertheless be delivered as though the person who signed whose facsimile signatures shall have been used thereon had not ceased to be such Officer or Officers.

Section 6.02. Fractional Shares. The Corporation may, but shall not be required to, issue fractional shares of its capital stock if necessary or appropriate to effect authorized transactions. If the Corporation does not issue fractional shares, it shall (i) arrange for the disposition of fractional interests on behalf of those that otherwise would be entitled thereto, (ii) pay in cash the fair value of fractions of a share as of the time when those who otherwise would be entitled to receive such fractions are determined, or (iii) issue scrip or warrants in registered form (either represented by a certificate or uncertificated) or in bearer form (represented by a certificate), which scrip or warrants shall entitle the holder to receive a full share upon surrender of such scrip or warrants aggregating a full share. Fractional shares shall, but scrip or warrants for fractional shares shall not (unless otherwise expressly provided therein), entitle the holder to exercise voting rights, to receive dividends thereon, to participate in the distribution of any assets in the event of liquidation, and otherwise to exercise rights as a holder of capital stock of the class or series to which such fractional shares belong.

Section 6.03. Shareholder Records. The names and addresses of the holders of record of the shares of each class and series of the Corporation's capital stock, together with the number of shares of each class and series held by each record holder, shall be entered on the books of the Corporation. Except as otherwise required by the DGCL or other applicable law, the Corporation shall be entitled to recognize the exclusive right of a person registered on its books as the owner of shares of capital stock of the Corporation as the person entitled to exercise the rights of a stockholder, including, without limitation, the right to receive any dividends or any other distributions and to vote in person or by proxy at any meeting of the stockholders of the Corporation. The Corporation shall not be bound to recognize any equitable or other claim to or interest in any such shares on the part of any other person, whether or not it shall have express or other notice thereof, except as otherwise expressly required by the DGCL or other applicable law.

Section 6.04. Determination of Shareholders.

(a) For the purpose of determining shareholders entitled to notice of or to vote at any meetings of shareholders or any adjournment thereof, or entitled to receive payment of any dividend, or in order to make a determination of shareholders for any other proper purpose, the Board of Directors may provide that stock transfer books shall be closed for a stated period not to exceed sixty days. If the stock transfer books shall be closed for the purpose of determining shareholders entitled to notice or to vote at a meeting of shareholders, such books shall be closed for at least ten days immediately preceding such meeting.

(b) In lieu of closing stock transfer books, the Board of Directors may fix in advance a date as the record date for any such determination of shareholders, such date to be not more than sixty days and, in case of a meeting of shareholders, not less than ten days, prior to the date on which the particular action requiring such determination of shareholders is to be taken.

Section 6.06. Transfer Agent. The Board of Directors may appoint one or more transfer agents and one or more registrars and may require each stock certificate to bear the signature or signatures of a transfer agent or a registrar or both.

Section 6.07. Replacement Certificates. Any person claiming a certificate of stock to be lost, stolen, or destroyed shall make an affidavit or affirmation of the fact in such manner as the Board of Directors may require and shall, if the Directors so require, give the Corporation a bond of indemnity. Such bond shall be in form and amount satisfactory to the Board of Directors, and shall be with one or more sureties, whereupon an appropriate new certificate may be issued in lieu of the one alleged to have been lost, stolen or destroyed.

7. MISCELLANEOUS

Section 7.01. Inspection of Books. The Board of Directors shall have power to determine which accounts and books of the Corporation, if any, shall be open to the inspection of the shareholders, except with respect to such accounts, books, and records as may by law be specifically open to inspection by the shareholders, and shall have power to fix reasonable rules and regulations not in conflict with the applicable law, if any, for the inspection of records, accounts, and books which by law or by determination of the Board of Directors shall be open to inspection, and the shareholders' rights to this respect are and shall be restricted and limited accordingly.

Section 7.02. Fiscal Year. The fiscal year of the Corporation shall be fixed from time to time by resolution of the Board of Directors.

Section 7.03. Seal. If required, the signature of the Corporation followed by the word "SEAL" or "CORPORATE SEAL" enclosed in parenthesis or scroll, shall be deemed to be the seal of the Corporation.

Section 7.04. Appointment of Agents. The Chairman of the Board, the Chief Executive Officer, or the Secretary shall be authorized and empowered in the name of and as the act and deed of the Corporation to name and appoint general and special agents, representatives, and attorneys to represent the Corporation in the United States or in any foreign country or countries; to name and appoint attorneys and proxies to vote any shares of stock in any other Corporation at any time owned or held of record by the Corporation; to prescribe, limit, and define the powers and duties of such agents, representatives, attorneys, and proxies; and to make substitution, revocation, or cancellation in whole or in part of any power or authority conferred on any such agent, representative, attorney, or proxy. All powers of attorney or other instruments under which such agents, representatives, attorneys, or proxies shall be so named and appointed shall be signed and executed by the Chairman of the Board, the Chief Executive Officer, or the Secretary, and the corporate seal shall be affixed thereto. Any substitution, revocation, or cancellation shall be signed in like manner, provided always that any agent, representative, attorney, or proxy, when so authorized by the instrument appointing him, may substitute or delegate his powers in whole or in part and revoke and cancel such substitutions or delegations. No special authorization by the Board of Directors shall be necessary in connection with the foregoing, but this Bylaw shall be deemed to constitute full and complete authority to the Officers above designated to do all the acts and things as they deem necessary or incidental thereto or in connection therewith.

8. AMENDMENTS

Section 8.01. Amendment. The Bylaws of the Corporation may be altered or amended and new Bylaws may be adopted by the shareholders at any annual or special meeting of the shareholders or by the Board of Directors at any regular or special meeting of the Board of Directors; *except* that, if such action is to be taken at a meeting of the shareholders, notice of the general nature of the proposed change in the Bylaws shall have been given in the notice of the meeting.

**AMENDED AND RESTATED
CERTIFICATE OF INCORPORATION
OF
NANOFILM HOLDING INC.**

FIRST: The name of the corporation (the “*Corporation*”) is:

Nanofilm Holding Inc.

SECOND: The address of the Corporation’s registered office in the State of Delaware is 800 Delaware Avenue, City of Wilmington, County of New Castle, Delaware 19801. The name of the Corporation’s registered agent at such address is Delaware Corporations LLC.

THIRD: The purpose of the Corporation is to engage in any lawful act or activity for which corporations may be organized under the General Corporation Law of the State of Delaware.

FOURTH: The total number of shares that the Corporation has authority to issue is 1,000 shares of Common Stock, par value of \$0.001 per share.

FIFTH: Elections of directors need not be by written ballot except and to the extent provided in the bylaws of the Corporation.

SIXTH: To the full extent permitted by the General Corporation Law of the State of Delaware or any other applicable laws presently or hereafter in effect, no director of the Corporation will be personally liable to the Corporation or its stockholders for or with respect to any acts or omissions in the performance of his or her duties as a director of the Corporation. Any repeal or modification of this Article Sixth will not adversely affect any right or protection of a director of the Corporation existing immediately prior to such repeal or modification.

SEVENTH: Each person who is or was or had agreed to become a director or officer of the Corporation, or each such person who is or was serving or who had agreed to serve at the request of the Board of Directors or an officer of the Corporation as an employee or agent of the Corporation or as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (including the heirs, executors, administrators or estate of such person), shall be indemnified by the Corporation to the full extent permitted by the General Corporation Law of the State of Delaware or any other applicable laws as presently or hereafter in effect. Without limiting the generality or the effect of the foregoing, the Corporation may enter into one or more agreements with any person which provide for indemnification greater or different than that provided in this Article Seventh. Any repeal or modification of this Article Seventh shall not adversely affect any right or protection existing hereunder immediately prior to such repeal or modification.

EIGHTH: In furtherance and not in limitation of the rights, powers, privileges, and discretionary authority granted or conferred by the General Corporation Law of the State of Delaware or other statutes or laws of the State of Delaware, the Board of Directors is expressly authorized to make, alter, amend or repeal the bylaws of the Corporation, without any action on the part of the stockholders, but the stockholders may make additional bylaws and may alter, amend or repeal any bylaw whether adopted by them or otherwise. The Corporation may in its bylaws confer powers upon its Board of Directors in addition to the foregoing and in addition to the powers and authorities expressly conferred upon the Board of Directors by applicable law.

NINTH: The Corporation reserves the right at any time and from time to time to amend, alter, change or repeal any provision contained in this Certificate of Incorporation, and other provisions authorized by the laws of the State of Delaware at the time in force may be added or inserted, in the manner now or hereafter prescribed herein or by applicable law; and all rights, preferences and privileges of whatsoever nature conferred upon stockholders, directors or any other persons whomsoever by and pursuant to this Certificate of Incorporation in its present form or as hereafter amended are granted subject to this reservation.

NanoMerger Sub Inc.

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BYLAWS

MEETINGS OF STOCKHOLDERS

Section 1. Time and Place of Meetings. All meetings of the stockholders for the election of directors or for any other purpose shall be held at such time and place, within or without the State of Delaware, as may be designated by the Board of Directors, or by the President or the Secretary in the absence of a designation by the Board of Directors, and stated in the notice of the meeting or in a duly executed waiver of notice thereof. Stockholders may participate in an annual or special meeting of the stockholders by use of any means of communication by which all stockholders participating may simultaneously hear each other during the meeting. A stockholder's participation in a meeting by any such means of communication constitutes presence in person at the meeting.

Section 2. Annual Meeting. An annual meeting of the stockholders shall be held at such date and time as shall be designated from time to time by the Board of Directors, at which meeting the stockholders shall elect by a plurality vote the directors to succeed those whose terms expire and shall transact such other business as may properly be brought before the meeting.

Section 3. Special Meetings. Special meetings of the stockholders, for any purpose or purposes, unless otherwise prescribed by law or by the Certificate of Incorporation, may be called by the Board of Directors.

Section 4. Notice of Meetings. Notice of every meeting of the stockholders, stating the place, if any, date and hour of the meeting, the means of remote communication, if any, and, in the case of a special meeting, the purpose or purposes for which the meeting is called, shall be given not less than ten, nor more than sixty days before the date of the meeting to each stockholder entitled to vote at such meeting, except as otherwise provided herein or by law. When a meeting is adjourned to another place, date or time, written notice need not be given of the adjourned meeting if the place, date and time thereof and the means of remote communication, if any, are announced at the meeting at which the adjournment is taken; except, that if the adjournment is for more than thirty days, or if after the adjournment a new record date is fixed for the adjourned meeting, written notice of the place, date and time of the adjourned meeting shall be given. At any adjourned meeting, any business may be transacted which might have been transacted at the original meeting.

Section 5. Quorum. The holders of a majority of the stock issued and outstanding and entitled to vote thereat, present in person or represented by proxy, shall constitute a quorum at all meetings of the stockholders for the transaction of business except as otherwise provided by law or by the Certificate of Incorporation. If, however, a quorum shall not be present or represented at any meeting of the stockholders, the stockholders entitled to vote thereat, present in person or represented by proxy, shall have power to adjourn the meeting from time to time, without notice other than announcement at the meeting, until a quorum shall be present or represented.

Section 6. Voting Except as otherwise provided by law or by the Certificate of Incorporation, each stockholder shall be entitled at every meeting of the stockholders to one vote for each share of stock having voting power standing in the name of such stockholder on the books of the Corporation on the record date for the meeting and such votes may be cast either in person or by written proxy. Every proxy must be duly executed and filed with the Secretary of the Corporation. A stockholder may revoke any proxy which is not irrevocable by attending the meeting and voting in person or by filing an instrument in writing revoking the proxy or another duly executed proxy bearing a later date with the Secretary of the Corporation. The vote upon any question brought before a meeting of the stockholders may be by voice vote, unless the holders of a majority of the outstanding shares of all classes of stock entitled to vote thereon present in person or by proxy at such meeting shall so determine. When a quorum is present at any meeting, the vote of the holders of a majority of the stock that has voting power present in person or represented by proxy shall decide any question properly brought before such meeting, unless the question is one upon which by express provision of law, the Certificate of Incorporation or these bylaws, a different vote is required, in which case such express provision shall govern and control the decision of such question.

DIRECTORS

Section 7. Powers. The business and affairs of the Corporation shall be managed by or under the direction of its Board of Directors, which may exercise all such powers of the Corporation and do all such lawful acts and things as are not by law or by the Certificate of Incorporation directed or required to be exercised or done by the stockholders.

Section 8. Number and Term of Office. The Board of Directors shall consist of one or more members and the number of directors shall be fixed by resolution from time to time of the Board of Directors or by the stockholders at the annual meeting or a special meeting. Except as provided in Section 9, the directors shall be elected at the annual meeting of the stockholders and each director elected shall hold office until such director's successor is elected and qualified or until such director's earlier resignation or removal, in each case except as required by law. Any decrease in the authorized number of directors shall not be effective until the expiration of the term of the directors then in office, unless, at the time of such decrease, there shall be vacancies on the Board of Directors which are being eliminated by such decrease.

Section 9. Vacancies and New Directorships. Vacancies and newly created directorships resulting from any increase in the authorized number of directors which occur between annual meetings of the stockholders may be filled by a majority of the directors then in office, though less than a quorum, or by a sole remaining director, and the directors so elected shall hold office until the next annual meeting of the stockholders and until their successors are elected and qualified, except as required by law.

Section 10. Regular Meetings. Regular meetings of the Board of Directors may be held without notice immediately after the annual meeting of the stockholders and at such other time and place as shall from time to time be determined by the Board of Directors.

Section 11. Special Meetings. Special meetings of the Board of Directors may be called by a majority of the Directors on one day's notice to each director by whom such notice is not waived, given in accordance with Section 18, and shall be called by the President or the Secretary in like manner and on like notice on the written request of any director.

Section 12. Quorum. At all meetings of the Board of Directors, a majority of the total number of directors then in office shall constitute a quorum for the transaction of business, and the act of a majority of the directors present at any meeting at which there is a quorum shall be the act of the Board of Directors. If a quorum shall not be present at any meeting of the Board of Directors, the directors present thereat may adjourn the meeting from time to time to another place, time or date, without notice other than announcement at the meeting, until a quorum shall be present.

Section 13. Written Action. Any action required or permitted to be taken at any meeting of the Board of Directors or of any committee thereof may be taken without a meeting if all members of the Board of Directors or committee, as the case may be, consent thereto in writing or by electronic transmission, and the writing or writings or electronic transmission or transmissions are filed with the minutes of proceedings of the Board of Directors or Committee.

Section 14. Participation in Meetings by Conference Telephone. Members of the Board of Directors, or any committee designated by the Board of Directors, may participate in a meeting of the Board of Directors, or a meeting of any such committee, by means of conference telephone or similar communications equipment by means of which all persons participating in the meeting can hear each other, and such participation in a meeting shall constitute presence in person at the meeting.

Section 15. Committees. The Board of Directors may, by resolution passed by a majority of the whole Board of Directors, designate one or more committees, each committee to consist of one or more of the directors of the Corporation and each to have such lawfully delegable powers and duties as the Board of Directors may confer and each such committee shall serve at the pleasure of the Board of Directors. The Board of Directors may designate one or more directors as alternate members of any committee, who may replace any absent or disqualified member at any meeting of the committee. Except as otherwise provided by law, any such committee, to the extent provided in the resolution of the Board of Directors, shall have and may exercise all the powers and authority of the Board of Directors in the management of the business and affairs of the Corporation, and may authorize the seal of the Corporation to be affixed to all papers which may require it. Any committee or committees so designated by the Board of Directors shall have such name or names as may be determined from time to time by resolution adopted by the Board of Directors. Unless otherwise prescribed by the Board of Directors, a majority of the members of the committee shall constitute a quorum for the transaction of business, and the act of a majority of the members present at a meeting at which there is a quorum shall be the act of such committee. Each committee shall prescribe its own rules for calling and holding meetings and its method of procedure, subject to any rules prescribed by the Board of Directors, and shall keep a written record of all actions taken by it.

Section 16. Compensation. The Board of Directors may establish such compensation for, and reimbursement of the expenses of, directors for attendance at meetings of the Board of Directors or committees, or for other services by directors to the Corporation, as the Board of Directors may determine.

Section 17. Rules. The Board of Directors may adopt such special rules and regulations for the conduct of their meetings and the management of the affairs of the Corporation as they may deem proper, not inconsistent with law or these bylaws.

NOTICES

Section 18. Generally. Whenever by law or under the provisions of the Certificate of Incorporation or these bylaws, notice is required to be given to any director or stockholder, it shall not be construed to mean personal notice, but such notice may be given in writing, by mail, addressed to such director or stockholder, at such director's or stockholder's address as it appears on the records of the Corporation, with postage thereon prepaid, and such notice shall be deemed to be given at the time when the same shall be deposited in the United States mail. Except as otherwise required or prohibited by law, notice to directors and stockholders may also be given by facsimile, by telephone, electronic mail, posting on an electronic network together with separate notice to the director or stockholder of such specific posting (which notice shall be deemed given upon the later of such posting and the giving of such separate notice), or by any other form of electronic transmission consented to by the stockholder or director to whom the notice is given. Except as otherwise stated therein, notice pursuant to the preceding sentence will be deemed to be given at the time when the same is sent.

Section 19. Waivers. Whenever any notice is required to be given by law or under the provisions of the Certificate of Incorporation or these bylaws, a waiver thereof in writing, signed by the person or persons entitled to such notice, or a waiver by electronic transmission by the person entitled to such notice, in each case, whether before or after the time of the event for which notice is to be given, shall be deemed equivalent to such notice. Attendance of a person at a meeting shall constitute a waiver of notice of such meeting, except when the person attends a meeting for the express purpose of objecting, at the beginning of the meeting, to the transaction of any business because the meeting is not lawfully called or convened.

OFFICERS

Section 20. Generally. The officers of the Corporation shall be elected by the Board of Directors and shall consist of a President, a Secretary and a Treasurer. The Board of Directors may also elect such other officers, as the Board of Directors deems desirable, including, without limitation, the election of a Chief Executive Officer and a Chief Financial Officer. Any number of offices may be held by the same person.

Section 21. Compensation. The compensation of all officers and agents of the Corporation who are also directors of the Corporation shall be fixed by the Board of Directors. The Board of Directors may delegate the power to fix the compensation of other officers and agents of the Corporation to an officer of the Corporation.

Section 22. Succession. The officers of the Corporation shall hold office until their successors are elected and qualified or until such officer's earlier resignation or removal. Any officer elected or appointed by the Board of Directors may be removed at any time by the affirmative vote of a majority of the directors. Any vacancy occurring in any office of the Corporation may be filled by the Board of Directors.

Section 23. Authority and Duties. Each of the officers of the Corporation shall have such authority and shall perform such duties as are customarily incident to their respective offices, or as may be specified from time to time by the Board of Directors in a resolution which is not inconsistent with these bylaws.

Section 24. Execution of Documents and Action with Respect to Securities of Other Corporations. The President shall have and is hereby given, full power and authority, except as otherwise required by law or directed by the Board of Directors, to execute, on behalf of the Corporation, all duly authorized contracts, agreements, deeds, conveyances or other obligations of the Corporation, applications, consents, proxies and other powers of attorney, and other documents and instruments. In addition, the President may delegate to other officers, employees and agents of the Corporation the power and authority to take any action which the President is authorized to take under this Section 24, with such limitations as the President may specify; such authority so delegated by the President shall not be re-delegated by the person to whom such execution authority has been delegated.

STOCK

Section 25. Certificates. If the Board of Directors acts by resolution to issue certificates representing shares of stock of the Corporation, the form of the certificate shall be in such form as shall be determined by the Board of Directors, subject to applicable legal requirements. Such certificates shall be numbered and their issuance recorded in the books of the Corporation, and each such certificate shall exhibit the holder's name and the number of shares and shall be signed by, or in the name of the Corporation by such officers as the Board of Directors may designate. Any or all of the signatures upon such certificates may be facsimiles, engraved or printed.

Section 26. Transfer. Upon surrender to the Corporation or the transfer agent of the Corporation of a certificate for shares duly endorsed or other proper evidence of succession, assignment or authority to transfer, it shall be the duty of the Corporation to issue, or to cause its transfer agent to issue, a new certificate or other evidence of ownership to the person entitled thereto, cancel any old certificate and record the transaction upon its books.

Section 27. Lost, Stolen or Destroyed Certificates. The Secretary may direct a new certificate or certificates to be issued in place of any certificate or certificates theretofore issued by the Corporation alleged to have been lost, stolen or destroyed upon the making of an affidavit of that fact, satisfactory to the Secretary, by the person claiming the certificate of stock to be lost, stolen or destroyed. As a condition precedent to the issuance of a new certificate or certificates the Secretary may require the owner of such lost, stolen or destroyed certificate or certificates, or such owner's legal representative, to give the Corporation a bond in such sum and with such surety or sureties as the Secretary may direct as indemnity against any claims that may be made against the Corporation with respect to the certificate alleged to have been lost, stolen or destroyed or the issuance of the new certificate.

Section 28. Record Date. (a) In order that the Corporation is able to determine the stockholders entitled to notice of or to vote at any meeting of stockholders or any adjournment thereof, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted by the Board of Directors, and which record date shall not be more than sixty nor less than ten days before the date of such meeting. If no record date is fixed by the Board of Directors, the record date for determining stockholders entitled to notice of or to vote at a meeting of stockholders shall be at the close of business on the day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the day next preceding the day on which the meeting is held. A determination of stockholders of record entitled to notice of or to vote at a meeting of stockholders shall apply to any adjournment of the meeting; provided, however, that the Board of Directors may fix a new record date for the adjourned meeting.

(b) In order that the Corporation may determine the stockholders entitled to receive payment of any dividend or other distribution or allotment of any rights or the stockholders entitled to exercise any rights in respect of any change, conversion or exchange of stock, or for the purpose of any other lawful action, the Board of Directors may fix a record date, which record date shall not precede the date upon which the resolution fixing the record date is adopted, and which record date shall be not more than sixty days prior to such action. If no record date is fixed, the record date for determining stockholders for any such purpose shall be at the close of business on the day on which the Board of Directors adopts the resolution relating thereto.

GENERAL PROVISIONS

Section 29. Fiscal Year. The fiscal year of the Corporation shall be fixed from time to time by the Board of Directors.

Section 30. Corporate Seal. The Board of Directors may adopt a corporate seal and use the same by causing it or a facsimile thereof to be impressed or affixed or reproduced or otherwise.

Section 31. Reliance upon Books, Reports and Records. Each director, each member of a committee designated by the Board of Directors and each officer of the Corporation will, in the performance of his or her duties, be fully protected in relying in good faith upon the records of the Corporation and upon such information, opinions, reports or statements presented to the Corporation by any of the Corporation's officers or employees, or committees of the Board of Directors, or by any other person as to matters the director, committee member or officer reasonably believes are within such other person's professional or expert competence and who has been selected with reasonable care by or on behalf of the Corporation.

Section 32. Time Periods. In applying any provision of these bylaws which requires that an act be done or not be done a specified number of days prior to an event or that an act be done during a period of a specified number of days prior to an event, calendar days shall be used, the day of the doing of the act shall be excluded and the day of the event shall be included.

AMENDMENTS

Section 33. Amendments. These bylaws may be altered, amended or repealed, or new bylaws may be adopted, by the stockholders or by the Board of Directors.

VOTING AND CONVERSION AGREEMENT

This VOTING AND CONVERSION AGREEMENT, dated as of this 10th day of March 2014, (the “*Agreement*”), by and among NanoHolding Inc., a Delaware corporation (“*Nano*”), and each of the shareholders and other security holders of APNT identified on the signature pages hereto (each, a “*Sponsor*,” and collectively the “*Sponsors*”). All capitalized terms used but not defined in this Agreement shall have the meanings ascribed to them in the Merger Agreement (as defined below).

WHEREAS, Applied Nanotech Holdings, Inc., a Texas corporation (“*APNT*”), PEN Inc., NanoMerger Sub Inc., Nano and Carl Zeiss, Inc. are entering into an Agreement and Plan of Merger and Exchange of even date (the “*Merger Agreement*”) that provides for the redomestication of APNT into PEN a Delaware corporation and for the merger of NanoMerger Sub Inc. into Nanofilm; and

WHEREAS, in order to induce Nano to enter into the Merger Agreement and as condition to close as provided for therein, Nano and the Sponsors have agreed to enter into this Agreement.

NOW, THEREFORE, in consideration of the covenants, promises and representations set forth herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby expressly and mutually acknowledged, and intending to be legally bound hereby, the parties hereto agree as follows:

1. REPRESENTATIONS AND WARRANTIES.

Each of the parties hereto, by their respective execution and delivery of this Agreement, hereby represents and warrants to the other party hereto that:

(a) such party has the full right, capacity and authority to enter into, deliver and perform this Agreement;

(b) this Agreement has been duly executed and delivered by such party and is a binding and enforceable obligation of such party, enforceable against such party in accordance with the terms of this Agreement; and

(c) the execution, delivery and performance of such party’s obligations under this Agreement will not require such party to obtain the consent, waiver or approval of any Person and will not violate, result in a breach of, or constitute a default under any statute, regulation, agreement, judgment, consent, or decree by which such party is bound.

2. SHARES SUBJECT TO AGREEMENT

Each Sponsor, severally and not jointly, agrees to vote all of his, her or its voting shares of APNT then owned by such Sponsor, whether now owned or hereafter acquired (hereafter referred to as the “*Voting Shares*”), in accordance with the provisions of this Agreement.

3. OBLIGATIONS TO VOTE VOTING SHARES FOR APPROVAL OF THE MERGER AGREEMENT

At any annual or special meeting called, or in connection with any other action (including the execution of written consents) taken for the purpose of approving the Merger Agreement, the Redomestication Merger, the Nano Merger and any of the transaction or matter contemplated by the Merger Agreement (the “*Merger Events*”), each of the Sponsors agrees to:

(i) vote in favor of the adoption and approval of the Merger Agreement and the Merger Events;

(ii) vote against any proposal made in opposition to, or in competition with, the Merger Agreement and the Merger Events; and

(c) vote against any other action that is intended, or would reasonably be expected to, unreasonably impede, interfere with, delay, postpone, discourage or adversely affect the Merger Agreement and the Merger Events.

4. COVENANT TO VOTE

Each Sponsor shall appear in person or by proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote all Voting Shares owned by such Sponsor, either in person or by proxy, at any annual or special meeting of shareholders of the APNT called for the purpose of voting on and approving the transactions contemplated by the Merger Agreement. In addition, each Sponsor shall appear in person or proxy at any annual or special meeting of shareholders of the APNT for the purpose of obtaining a quorum and shall vote, or shall execute and deliver a written consent with respect to, all Voting Shares owned by such Sponsor, entitled to vote upon any other matter submitted to a vote of shareholders of the APNT in a manner so as to be consistent and not in conflict with, and to implement, the terms of this Agreement.

5. ADDITIONAL SHARES

If, after the effective date hereof, the Sponsors or any of their affiliates acquire beneficial or record ownership of any additional shares of the APNT (any such shares, "*Additional Shares*"), including, without limitation, upon conversion of any debt or other obligation of APNT into its common stock, exercise of any option, warrant or right to acquire shares of the APNT or through any stock dividend or stock split, the provisions of this Agreement shall thereafter be applicable to such Additional Shares as if such Additional Shares had been held by the Sponsors as of the effective date hereof. The provisions of the immediately preceding sentence shall be effective with respect to Additional Shares without action by any person or entity immediately upon the acquisition by the Sponsors of the beneficial ownership of the Additional Shares. The Sponsors shall require any affiliate that acquires Voting Shares or Additional Shares to vote as the Sponsor is required to vote under this Agreement and shall use reasonable efforts to cause any affiliate that acquires Additional Shares to enter into a written joinder to this Agreement substantially in the form attached hereto as Exhibit A.

6. TRANSFER RESTRICTIONS

Each Sponsor agrees that he, she or it shall not transfer any Voting Shares unless he, she or it shall cause any transferee who acquires such shares to execute and deliver a joinder substantially in the form of Exhibit A hereto to the APNT. Each certificate, if any, representing any shares of the APNT held by either party shall be endorsed with a legend reading substantially as follows:

“THE SHARES EVIDENCED HEREBY ARE SUBJECT TO A VOTING AGREEMENT (A COPY OF WHICH MAY BE OBTAINED UPON WRITTEN REQUEST FROM THE ISSUER), AND BY ACCEPTING ANY INTEREST IN SUCH SHARES THE PERSON ACCEPTING SUCH INTEREST SHALL BE DEEMED TO AGREE TO AND SHALL BECOME BOUND BY ALL THE PROVISIONS OF SAID VOTING AGREEMENT.”

7. CONVERSION OF ACCRUED COMPENSATION

(a) Each of the Sponsors listed on the Signature Page to this Agreement hereby acknowledge that APNT owes him, or in the case of Sichuan Anxian Yinhee Chemical and Construction Company (“SAYCC”), its representative, certain accrued compensation related to services rendered as a director as of the date hereof in an amount set forth beneath their respective names on the Signature Page to this Agreement (the “*Accrued Compensation*”). Shareholder acknowledges that no other compensation, stock awards, vacation pay, sick pay or any other money is currently owed to Sponsor related to service as a Director other than (i) out-of-pocket expenses reimbursable to such Sponsor under expense reimbursement policies previously approved by the Board of Directors of APNT, and (ii) for those Directors who served on the Merger Committee the one-time fee that will be paid in stock if and when the closing occurs under the Merger Agreement. Sponsor agrees additional compensation for service as a director will accrue after the date of this Agreement based on the fee schedule attached as Annex A.

(b) Immediately prior to the Nano Merger as defined in the Merger Agreement the Accrued Compensation plus compensation for service as a Director earned after the date hereof until the day of the Redomestication Merger will automatically be converted into shares of PEN’s Class A Common Stock (the “*Class A Common Stock*”) at the Conversion Price. The number of shares of the Class A Common Stock to be issued to the representative of SAYCC and to each individual Sponsor upon conversion shall be determined by dividing (x) the amount due to the Sponsor (or its representative) by (y) the Conversion Price. The “*Conversion Price*” shall be equal to \$0.05 per share.

(c) The obligations of the Sponsors under Section 7(a) and to convert their Accrued Compensation into shares of PEN as provided for in this Section 7 is contingent upon the Closing under the Merger Agreement and in the event the Closing under the Merger Agreement does not occur or such agreement is terminated through no fault of APNT, Sponsor shall have no obligation under this Section 7.

8. TERMINATION

This Agreement shall commence on the date hereof and continue in force and effect until the earlier of (i) the Closing Date of the Merger Agreement, or (ii) the End Date as provided for in the Merger Agreement. Upon the termination of this Agreement, except as otherwise set forth herein, the restrictions and obligations set forth herein shall terminate and be of no further effect, except that such termination shall not affect rights perfected or obligations incurred under this Agreement prior to such termination.

9. GENERAL PROVISIONS

(a) *Notices.* Unless otherwise provided herein, all notices, requests, waivers and other communications made pursuant to this Agreement will be in writing and will be given in accordance with the notice provisions of the Merger Agreement.

(b) *Enforceability; Severability.* The parties hereto agree that each provision of this Agreement will be interpreted in such a manner as to be effective and valid under applicable law. If one or more provisions of this Agreement are nevertheless held to be prohibited, invalid or unenforceable under applicable law, such provision will be effective to the fullest extent possible excluding the terms affected by such prohibition, invalidity or unenforceability, without invalidating the remainder of such provision or the remaining provisions of this Agreement. If the prohibition, invalidity or unenforceability referred to in the prior sentence requires such provision to be excluded from this Agreement in its entirety, the balance of the Agreement will be interpreted as if such provision were so excluded and will be enforceable in accordance with its terms.

(c) *Entire Agreement.* This Agreement constitutes the entire agreement among the parties with respect to the subject matter hereof.

(d) *Equitable Relief.* The parties hereto recognize that, if such party fails to perform or discharge any of its obligations under this Agreement, any remedy at law may prove to be inadequate relief to the other parties. Each party hereto therefore agrees that the other parties are entitled to seek temporary and permanent injunctive relief and any other equitable remedy a court of competent jurisdiction may deem appropriate in any such case.

(e) *Manner of Voting.* The voting of shares pursuant to this Agreement may be effected in person, by proxy, by written consent or in any other manner permitted by applicable law.

(f) *Governing Law.* This Agreement shall be construed in accordance with, and governed in all respects by, the laws of the State of Delaware.

(g) *Delays or Omissions.* No delay or omission to exercise any right, power or remedy accruing to any party under this Agreement, or upon any breach or default of any other party under this Agreement, will impair any such right, power or remedy of such non-breaching or non-defaulting party nor will it be construed to be a waiver of any such breach or default, or an acquiescence therein, or of or in any similar breach or default thereafter occurring; nor will any waiver of any single breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any provisions or conditions of this Agreement, must be in writing and will be effective only to the extent specifically set forth in such writing. Except as otherwise set forth herein, all remedies, either under this Agreement or by Law or otherwise afforded to any party, will be cumulative and not alternative.

(h) *Counterparts.* This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, and all of which together shall constitute one instrument.

(i) *Amendments.* Any term of this Agreement may be amended only with the written consent of the parties hereto.

(j) *Controlling Agreement.* To the extent the terms of this Agreement (as amended, supplemented, restated or otherwise modified from time to time) directly conflicts with a provision in the Merger Agreement, the terms of this Agreement shall control.

[Signatures begin on next page.]

IN WITNESS WHEREOF, the Parties hereto have executed or caused this Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

NANOHOLDING INC.

By: /s/ Scott E Rickert

Name: Scott E Rickert

Title: President

SPONSORS

SICHUAN ANXIAN YINHEE CHEMICAL AND CONSTRUCTION
COMPANY

By: _____

Its:

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758

Facsimile: (512) 339 – 5021

Its representative: David (Xin) Li

Xin Li

Address:

Facsimile:

Accrued Compensation: \$36,667

/s/ Doug Baker

Doug Baker

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758

Facsimile: (512) 339 – 5021

Accrued Compensation: none

/s/ Paul Rocheleau

Paul Rocheleau

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758

Facsimile: (512) 339 – 5021

Accrued Compensation: \$26,335

/s/Robert Ronstadt

Robert Ronstadt

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 78758

Facsimile: (512) 339 – 5021

Accrued Compensation: \$54,977

/s/ Howard Westerman

Howard Westerman

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: \$26,335

/s/Zvi Yaniv

Zvi Yaniv

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: none

/s/ Ronald Berman

Ronald Berman

Address: 3006 Longhorn Blvd. Suite 107, Austin, TX 7875

Facsimile: (512) 339 – 5021

Accrued Compensation: \$32,927

Exhibit A

Joinder to Voting Agreement

By execution of this Joinder, the undersigned (the "Sponsor") hereby joins in, agrees to become a party to, be bound by, and subject to, all of the covenants, terms and conditions of that certain Voting Agreement, dated as of March 10, 2014 (as the same may be amended, supplemented or otherwise modified from time to time, the "Voting Agreement"), by and among [_____], a _____ company, and certain of its shareholders in the same manner as if the Sponsor were an original signatory to such Voting Agreement.

The Sponsor shall have all the rights, and shall observe all the obligations, applicable to a Sponsor under the Voting Agreement.

The Sponsor represents and warrants that he/she/it has received a copy of, and has reviewed the terms of, the Voting Agreement.

All questions concerning the construction, validity and interpretation of this Joinder will be governed by and construed in accordance with the internal laws of the state of Delaware.

IN WITNESS WHEREOF, the Sponsor has executed this Joinder as of this ____ day of _____, ____ .

SHAREHOLDER

with copies to:

_____ By:

Address for
Notices:

SEPARATION AND RELEASE AGREEMENT

This Separation and Release Agreement (“Agreement”) is entered into by Douglas P. Baker (“Employee”) and Applied Nanotech Holdings, Inc. (the “Company”).

Employee agrees that this Agreement is part of an overall settlement and new consulting relationship set forth in the following agreements that are being entered into simultaneously between Baker and the Company: (i) Consulting Agreement, (ii) Promissory Note, (iii) Stock Grant Agreement, and (iv) Piggyback Registration Rights Agreement (the “New Agreements”). Simultaneously with the execution and delivery of this Agreement, Employee and the Company are delivering the New Agreements that provide valuable benefits to Employee.

Employee and the Company agree that Employee’s employment is terminated effective March 15, 2014. Effective on that date, by this Agreement, Employee resigns as Chief Financial Officer and as a Director of the Company, and resigns all his positions as an officer or director of any subsidiary of the Company.

The Company will pay Employee 196 hours (\$16,490) of accrued vacation time in amounts equal to his regular pay for the last month, in accordance with the Company’s regular payroll practice, less applicable taxes and authorized withholdings until paid in full. Employee’s options to acquire stock of the Company under the 2002 Equity Compensation Plan and the 2012 Equity Compensation Plan and the Company’s Convertible Promissory Note dated March 15, 2010 are unaffected by this Agreement or the New Agreements.

Subject to the payment of accrued vacation as set forth above and payment of the March 15, 2014 payroll, Employee agrees that he has been paid all wages, salary, bonuses, commissions, expense reimbursements, and any other amounts that he is owed, if any. Employee also agrees that he has been paid what he is owed for any sick time, paid time off or paid leave of absence, or in connection with any severance or deferred compensation plan, if eligible, and that he has been given all time off to which he was entitled under any policy or law, including, but not limited to leave under the Family and Medical Leave Act. This Agreement does not affect Employee’s rights under the Company’s Section 125 (“cafeteria”) plan.

Employee is solely responsible for any and all of his withholding tax obligations or other obligations under federal and/or state law pertaining to the receipt of the consideration in this Agreement and the New Agreements and Employee hereby agrees to hold the Company, its subsidiaries and their respective affiliates harmless from any and all liability relating to such obligations.

In exchange for providing Employee with the obligations under this Agreement and the New Agreements, Employee fully releases the Company and its subsidiaries and their respective current and former parent companies, subsidiaries, partners, investors, successors, predecessors and affiliated or related companies as well as any of their respective current and former insurers, directors, officers, agents, partners, shareholders, employees, consultants, advisors, representatives and assigns (collectively, the “Released Parties”) from any claims, actions, causes of action, complaints, lawsuits, petitions, charges, indebtedness, wages, compensation, benefits, separation or severance pay, losses, liabilities and demands Employee may have against them as of the date Employee signs this Agreement, whether such claims arise from common law, statute, regulation, or contract. This release includes but is not limited to rights and claims arising under Title VII of the Civil Rights Act, the Age Discrimination in Employment Act, the Older Workers Benefit Protection Act, the Americans with Disabilities Act, the Genetic Information Nondiscrimination Act, the Family and Medical Leave Act, and any state leave or workers’ compensation retaliation law. By accepting the New Agreements, Employee has agreed to release the Released Parties from any liability arising out of Employee’s employment with and separation from the Company. This would include, among other things, claims alleging breach of contract, defamation, emotional distress, harassment, retaliation, or discrimination based on age, gender, race, religion, national origin, disability or any other status under local, state or federal law. For the avoidance of doubt, this is not a release of any rights of Employee (1) Employee’s rights to his account balance under the Company’s 401(k) plan, (2) rights to indemnification for claims that may be asserted against Employee with respect to service as an officer or director of the Company or any of its subsidiaries or Employee’s rights under any directors and officers liability insurance policy maintained by the Company (3) to elect continuation in the Company’s medical plans as provided by COBRA; (3) to claims for unemployment compensation or workers compensation benefits or other rights that may not be released as a matter of law; (4) any non-waivable right to file a charge with the U.S. Equal Employment Opportunity Commission. But, if a government agency were to pursue any matters released by this Agreement, this Agreement will control as the exclusive remedy and full settlement of all such claims by Employee for money damages.

The Company (for itself and its subsidiaries) fully releases Employee (in his capacity as an Employee) from any claims, actions, causes of action, complaints, lawsuits, petitions, charges, losses, liabilities and demands the Company may have against Employee as of the date Employee signs this Agreement, whether such claims arise from common law, statute, regulation, or contract relating to his employment with the Company.

Employee shall remain available (even after the end of the Consulting Agreement) and shall cooperate with the Company with respect to any aspect of litigation, arbitration, investigation, audit, governmental proceedings or any other proceedings involving the Company in respect of periods during which Employee was employed by the Company or its subsidiaries or concerning matters in which Employee was involved, or of which Employee had knowledge, during his employment. Employee will promptly inform the Company if Employee becomes aware of any lawsuits, arbitrations, administrative actions, claims or investigations involving such matters that may be filed against the Company or any of the Released Parties. The Company agrees to reimburse Employee for reasonable, pre-approved, out-of-pocket expenses associated with his cooperation, including travel expenses.

This Agreement does not prevent Employee from pursuing any workers' compensation benefits to which Employee may be entitled.

This Agreement does not alter any agreements or promises Employee made prior to or during Employee's employment concerning intellectual property, confidentiality, non-solicitation, or non-competition.

Employee is the only person who is able to assert any right or claim arising out of Employee's employment with or separation from the Company. Employee promises that he has not assigned, pledged or otherwise sold such rights or claims, nor has Employee relied on any promises other than those contained in this Agreement.

Neither this Agreement nor the New Agreements being given to Employee for this release is an admission by the Company of any liability or unlawful conduct of any kind. Employee agrees that the additional compensation being offered in exchange for Employee's release of claims and rights is sufficient.

Employee will not disparage the Company or do anything that portrays the Company, its business or personnel in a negative light or that might injure the Company's business or affairs. This would include, but is not limited to, disparaging remarks about the Company as well as any Released Party, the Company's plans, structure or organization. The Company will not disparage Employee or take any action that portrays the Employee in a negative light. This would include, but is not limited to, disparaging remarks about the employee or the employee's performance. Neither party may make a claim for breach of this paragraph based on testimony given by the other in any lawsuit, arbitration or governmental investigation.

If any portion of this Agreement is found to be unenforceable, the remainder of the Agreement will remain enforceable.

Employee acknowledges that Employee has carefully read this Agreement and understands what he is signing, what benefits Employee is receiving, what rights Employee is surrendering and the final and binding effect of this Agreement. Employee has had the opportunity to have this Agreement reviewed by Employee's attorney. This Agreement will expire if not executed on or before March 22, 2014 and returned via email to robertronstadt@gmail.com with a copy to jeannemrickert@msn.com.

Employee acknowledges and agrees that Employee had until March 14, 2014, or 21 days from the date this Agreement was first presented to Employee to consider this Agreement before accepting it by signing and dating this Agreement and that Employee's failure to do so within this time period will result in the revocation of the Company's offer to enter into this Agreement and will void the New Agreements. Employee may revoke this Agreement within seven days after Employee signs it. This Agreement and the New Agreements will not become effective or enforceable, and the payment of accrued vacation will not commence, until the expiration of the seven-day period without Employee's revocation.

No term, provision or condition of this Agreement may be modified in any respect except in a written document signed by all parties to this Agreement. No person has any authority to make any representation or promises not contained in this Agreement, and this Agreement has not been signed in reliance upon any representation or promise except what is included in this Agreement.

This Agreement may be executed and delivered in electronic counterparts, each of which will be considered one and the same release and will become effective when it has been signed by Employee and delivered to the Company.

This Agreement fully and accurately describes the complete agreement concerning Employee's separation of employment and Employee's agreement to release the Released Parties for any acts occurring prior to the date Employee signs this Agreement. By signing this Agreement, Employee agrees that Employee's waiver of rights and claims is knowing and voluntary. Employee further confirms that he fully understands the benefits Employee is receiving and the rights and claims Employee is waiving under this Agreement and that Employee has accepted those benefits and waived those rights and claims of his own free will.

This release was presented to Employee on February 13, 2014.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt
Robert Ronstadt, Chairman

ACCEPTED AND AGREED TO:

/s/ Douglas P. Baker
Douglas P. Baker

March 10, 2014
Date

CONSULTING AGREEMENT

This is the Consulting Agreement by and between Applied Nanotech Holdings, Inc., a Texas corporation (the “ **Company**”), and Douglas P. Baker, an individual, dated March 10, 2014 with an effective date of March 15, 2014 (the “ **Effective Date**”).

BACKGROUND: Baker has been employed by the Company as its Chief Financial Officer and has intimate knowledge of the affairs of the Company. In order for the Company to continue to benefit from Baker’s experience and his knowledge of the Company and its business as well as the business and affairs of the Company’s subsidiaries, the Company desires Baker’s service as a consultant. Baker has agreed to provide continuing service to the Company on the terms set forth in this Agreement

NOW, therefore, the Company and Baker agree:

1. Baker shall be available and shall provide services to the Company and to its Board as reasonably requested from time to time until the first anniversary of the Effective Date. Until the closing under the Agreement and Plan of Merger with Nanofilm to which the Company is a party or until the termination of that agreement, Baker will use commercially reasonable efforts to make services to the Company his first priority. It is understood that Baker will be seeking full-time employment, and that may mean that he is not always available during normal working hours. Services will otherwise be rendered in accordance with the same diligence and quality as Baker has demonstrated as an employee of the Company.
2. If third-parties contact Baker directly he will forward those inquiries as follows:

To Bruce Vereecken bvereecken@nanofilmtechnology.com 330-329-0652 216-447-1199 X 107	any inquiry relating to accounting, tax, finances, share transfer, share legends or other administrative matters (whether related or unrelated to finances and stock matters)
To Lynn Lilly llilly@nanofilmtechnology.com 216-702-5167 216-447-1199 X119	Any inquiry relating to public information, investor relations, public relations, or questions from investors, noteholders or the media

3. Requests for Baker’s assistance will be made on behalf of the Company in writing by the individuals identified above in their areas of responsibility. Prior to the Effective Date Baker will have reviewed his recurring duties with Bruce Vereecken in Vereecken’s area of responsibility as identified above, and with Lynn Lilly in her area of responsibility identified above. After the Effective Date, Vereecken or his designee and Lilly or her designee will perform those functions with such assistance as Vereecken or Lilly request from time to time. Requests from Directors will be coordinated by Robert Ronstadt, Chairman who will submit the inquiry in writing with a copy to Scott Rickert.
4. Baker will keep a record of time spent of work for the Company, broken down for review based on the person requesting the assistance, and will submit an invoice not later than the 5th business day of each month that includes a statement setting forth the hours worked during the prior month. The Company will pay Baker within 30 days of receiving his invoice with a proper statement of work.

5. The Company will pay Baker \$125.00 per hour for services performed for the Company. The Company will reimburse Baker for any out of pocket costs of travel made at the written request of the Company and for other out of pocket costs reasonably incurred, to be submitted for reimbursement with receipts and other documentation in accordance with the practice for employee expense reimbursement.
6. The Company will not withhold any amounts for payment of taxes on Baker's compensation and any amounts due to federal, state or local tax authorities are Baker's sole responsibility. Baker will indemnify and hold the Company harmless from any claim asserted as a result of Baker's failure to pay taxes on compensation paid to Baker under this Agreement.
7. Baker recognizes that he will continue to have access to confidential information of the Company, including information that may be deemed material to investors and agrees to keep all such information confidential and not to disclose or divulge confidential information except as required by law in performing services for the Company.
8. The Company expects personal services from Baker and Baker may not delegate any of his duties under this Agreement or assign any of his rights hereunder.
9. Baker's employment relationship with the Company terminates on the Effective Date and all additional services will be rendered as an independent contractor. Baker understands that he is not eligible to participate in any benefit plans or programs offered to employees of the Company except for rights that are available to him under COBRA because of the termination of his employment.
10. The Agreement does not create an agency relationship or joint venture.
11. Baker's obligation to provide consulting services under this Agreement, and the Company's obligation to pay for consulting services will end on March 1, 2015. Baker may retain the Company laptop but will remove or destroy all Company confidential information from his electronic and hard copy files.
12. This Agreement is the entire agreement of the parties with respect to Baker's consulting services. No modification of this Agreement will be effective unless signed by both parties. This agreement may be signed in multiple counterparts, all of which will be one and the same agreement. PDF or other electronic transmission, execution and delivery of this Agreement or any notice under this Agreement is valid and binding.
13. This Agreement will be governed by the laws of the state of Texas. Employee agrees that the Federal or State courts of Austin Texas will be the sole and exclusive forum in which any dispute between the parties will be determined and submits to the personal jurisdiction of those courts.

IN WITNESS WHEREOF, the parties have executed, or caused this Agreement to be executed by a duly authorized representative, as of the day and year stated above with an effective date of March 15, 2014.

APPLIED NANOTECH HOLDINGS, INC.

Notice Address:

Applied Nanotech Holdings, Inc.
3006 Longhorn Boulevard, Suite 107
Austin, Texas 78758
Attn: Robert Ronstadt

By: /s/ Robert Ronstadt
Robert Ronstadt, Chairman

With a copy to:

Nanofilm Ltd.
9 Diamond Dr
Key West, Florida 33040
Attn: Scott Rickert

Notice Address:

5154 Springdale Court
Clarkston, MI 48348

/s/ Douglas P. Baker
Douglas P. Baker

THIS NOTE AND THE SHARES OF COMMON STOCK THAT MAY BE ISSUED HEREUNDER HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR ANY APPLICABLE STATE SECURITIES LAWS AND MAY NOT BE SOLD OR OTHERWISE TRANSFERRED BY ANY PERSON, INCLUDING A PLEDGEE, UNLESS (1) EITHER (A) A REGISTRATION STATEMENT WITH RESPECT THERETO SHALL BE EFFECTIVE UNDER THE SECURITIES ACT, OR (B) THE COMPANY SHALL HAVE RECEIVED AN OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY THAT AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT IS AVAILABLE, AND (2) THERE SHALL HAVE BEEN COMPLIANCE WITH ALL APPLICABLE STATE SECURITIES OR "BLUE SKY" LAWS.

APPLIED NANOTECH HOLDINGS, INC.

Promissory Note

\$75,000

March 10, 2014

For value received **APPLIED NANOTECH HOLDINGS INC.**, a Texas corporation (the "**Company**"), hereby unconditionally promises to pay to the order of **Douglas P. Baker** (the "**Lender**"), the principal sum of Seventy Five Thousand Dollars (\$75,000) (the "**Loan**"). The principal amount due under this Note shall bear interest at the minimum rate of interest applicable under the Internal Revenue Code. All Principal and Interest shall be due on the earlier of (1) the closing of the Company's merger with Nanofilm under the Agreement and Plan of Merger dated the date of this Promissory Note, or (2) December 31, 2014. All payments in respect of this Note shall be made either in lawful money of the United States of America, or common stock of the Company as set forth below.

The Company has the right, at its option, to satisfy all obligations under this Promissory Note by delivery to Lender 1,500,000 shares of the Company's common stock (or, if delivered after the merger of the Company with and into PEN Inc., shares of Class A Common Stock of PEN Inc).

The Company's obligations under this Promissory Note are absolute and unconditional and shall not be subject to any defense, setoff or counterclaim that may at any time be available to or be asserted by the Company. The Company hereby waives, and agrees not to assert, any right to offset or interpose as a defense or counterclaim any claim against the Lender against its obligations under this Note.

The Company shall pay all reasonable out-of-pocket expenses incurred by the Lender, including fees and disbursements of counsel for the Lender, in connection with the enforcement of this Note.

This Note shall be governed by and construed in accordance with the laws of the State of Texas.

With respect to any suit, action shall lie in the venue of Austin, Texas.

Lender may not transfer or assign any of Lender's rights under this Promissory Note. This Promissory Note and its terms are binding on the Company, Lender and their successors, heirs and legal representatives.

IN WITNESS WHEREOF, this Promissory Note has been executed and delivered as a sealed instrument on the date first above written by the duly authorized representative of the Company.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt, Chairman
Robert Ronstadt, Chairman

STOCK GRANT AGREEMENT

This Agreement is made and entered into as of the March 10, 2014 by and between Applied Nanotech Holdings, Inc., a Texas corporation (the “Company”), and Douglas P. Baker (“you”).

WHEREAS, the Company in order to induce you to continue and dedicate service to the Company in a consulting role and to serve as Chief Financial Officer for an additional period of time agrees to grant you shares of stock as set forth in this Agreement.

WHEREAS, you desire to accept the stock on the terms and conditions of this Agreement.

NOW, THEREFORE, in consideration of and mutual covenants set forth herein and for other valuable consideration hereinafter set forth, the parties agree as follows:

1. **The Grant.** Subject to the conditions set forth below, the Company hereby agrees to grant and deliver to you up to a total of 3,289,580 shares of Stock (the “Shares”) in three tranches to be granted on the dates set forth below and subsequently delivered as provided herein.

Grant Date	Number of Shares
September 1, 2014	1,200,000
180 days after closing of merger with PEN	1,200,000
January 31, 2015	The remaining balance

2. **Reservation of Shares.** You understand that (i) the Company does not have the power to issue or deliver the Shares until the number of shares it is authorized to issue has been increased and its Certificate of Incorporation has been amended; (ii) the Company expects to obtain that authorization from its stockholders in connection with their vote on the proposed merger of the Company with and into PEN Inc., that will also involve a subsequent merger with Nanofilm. If and when the Company has sufficient authorized capital stock to issue to you the Shares to be delivered hereunder and the stock that the Company can deliver under the Promissory Note being delivered to you today, the Company will reserve and maintain a reserve of shares to satisfy these obligations to you.

3. **Payment of Taxes.** You are required to pay cash to the Company (or the Company’s Subsidiary if you are an employee of a Subsidiary of the Company) for transmittal to the Internal Revenue Service in an amount equal to applicable income tax withholding plus all payroll taxes required to be withheld with respect to a grant of Shares not later than 60 days after each grant date that falls in 2014, and not later than 30 days after the grant date in 2015. The amount due is the amount that the Company deems necessary to satisfy its (or its Subsidiary’s) obligation to pay or withhold federal, state or local income or other taxes that you incur as a result of the Award. In making that calculation the Company will value the Shares based on the average of the closing price for the Shares for the 5 most recent trading days up to and including the grant date.

4. **Delivery of Stock.** Promptly following payment of the amount due under Section 3, the Company shall cause to be issued and delivered to you a certificate or other evidence of the number of Shares to which you are entitled, bearing an appropriate restrictive legend to reflect the fact that the Shares have been issued without registration under the Securities Act.

5. **Forfeiture.** Any Shares with a grant date in 2014 under Section 1 for which the required payment has not been made under Section 3 within 60 days of the grant date, will be forfeited. If the payment required under Section 3 for Shares with a grant date in 2015 has not been made within 30 days of the grant date those Shares will be forfeited. If one tranche of Shares is forfeited, it will not affect the grant of any other tranche of Shares.

6. **Beneficiary.** You may designate by notice to the Company a Beneficiary. “**Beneficiary**” means one or more persons, trusts or other entities which have been designated by you, in your most recent written beneficiary designation filed with the Company, to receive the benefits specified under this Agreement upon your death. If, upon a your death, there is no designated Beneficiary or surviving designated Beneficiary, then the term Beneficiary means the persons, trusts or other entities entitled by will or the laws of descent and distribution to receive such benefits.

7. **Compliance with Securities Law.**

a. You acknowledge and agree that (i) you are not relying upon any determination by the Company, its affiliates, or any of their respective employees, directors, officers, attorneys or agents (collectively, the “**Company Parties**”) as to the value of the Stock on the date of grant or any other date, (ii) you are not relying upon any written or oral statement or representation of the Company Parties regarding the tax effects associated with your execution of this Agreement and your receipt, holding and any sale of the Shares, and (iii) in deciding to enter into this Agreement, you are relying on your own judgment and the judgment of the professionals of your choice with whom you have consulted. You hereby release, acquit and forever discharge the Company Parties from all actions, causes of actions, suits, debts, obligations, liabilities, claims, damages, losses, costs and expenses of any nature whatsoever, known or unknown, on account of, arising out of, or in any way related to the tax effects associated with your execution of the Agreement and your receipt, holding and any sale of the Shares.

b. The issuance of Shares will be subject to compliance with all applicable requirements of federal, state, or foreign law with respect to such securities and with the requirements of any stock exchange or market system upon which the Shares may then be listed. No Shares will be issued hereunder if such issuance would constitute a violation of any applicable federal, state, or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Shares may then be listed. In addition, Shares will not be issued hereunder unless (i) a registration statement under the Securities Act, is at the time of issuance in effect with respect to the shares issued or (ii) in the opinion of legal counsel to the Company, the shares issued may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Act. As a condition to any issuance hereunder, the Company may require you to satisfy any qualifications that may be necessary or appropriate to evidence compliance with any applicable law or regulation and to make any representation or warranty with respect to such compliance as may be requested by the Company.

8. **Subdivision or Consolidation; Recapitalization; Reorganization .**

(a) The existence of this Agreement shall not affect in any way the right or power of the Board or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company’s capital structure or its business, any merger or consolidation of the Company, any issue of debt or equity securities ahead of or affecting Stock or the rights thereof, the dissolution or liquidation of the Company or any sale, lease, exchange or other disposition of all or any part of its assets or business or any other corporate act or proceeding. In no event will any action taken by the Company pursuant to this Section 8 result in the creation of deferred compensation within the meaning of the Nonqualified Deferred Compensation Rules.

(b) The Shares subject to grant and delivery under this Agreement shall be subject to adjustment from time to time, in accordance with the following provisions:

(i) If at any time, or from time to time, the Company shall subdivide as a whole (by reclassification, by a Stock split, by the issuance of a distribution on Stock payable in Stock, or otherwise) the number of shares of Stock then outstanding into a greater number of shares of Stock, then the number of shares of Stock (or other kind of shares or securities) to be granted under Section 1 shall be increased proportionately.

(ii) If at any time, or from time to time, the Company shall consolidate as a whole (by reclassification, by reverse Stock split or otherwise) the number of shares of Stock then outstanding into a lesser number of shares of Stock, then the number of shares of Stock (or other kind of shares or securities) to be granted under Section 1 shall be decreased proportionately.

(iii) Adjustments under Subsections 8(b)(i) and (ii) shall be made by the Company, and its determination as to what adjustments shall be made and the extent thereof shall be final, binding, and conclusive. No fractional interest shall be issued on account of any such adjustments.

(c) The issuance by the Company of shares of stock of any class or securities convertible into shares of stock of any class, for cash, property, labor or services, upon direct sale, upon the exercise of rights or warrants to subscribe therefor, or upon conversion of shares or obligations of the Company convertible into such shares or other securities, and in any case whether or not for fair value, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number of shares of Stock subject to grant.

9. Right of the Company and Subsidiaries to Terminate Services. Nothing in this Agreement confers upon you the right to continue in the employ of or performing services for the Company or any Subsidiary, or interfere in any way with the rights of the Company or any Subsidiary to terminate your employment or service relationship at any time. Termination of your consulting relationship with the Company shall have no effect on your rights under this Agreement.

10. Furnish Information. You agree to furnish to the Company all information requested by the Company to enable it to comply with any reporting or other requirements imposed upon the Company by or under any applicable statute or regulation.

11. Remedies. The Company shall be entitled to recover from you reasonable attorneys' fees incurred in connection with the successful enforcement of the terms and provisions of this Agreement whether by an action to enforce specific performance or for damages for its breach or otherwise.

12. **No Liability for Good Faith Determinations.** The Company and the members of the Board shall not be liable for any act, omission or determination taken or made in good faith with respect to this Agreement or the Shares granted hereunder.

13. **Execution of Receipts and Releases.** Any payment of cash or any issuance or transfer of shares of Stock or Shares to you, or to your legal representative, heir, legatee or distributee, in accordance with the provisions hereof, shall, to the extent thereof, be in full satisfaction of all claims of such Persons hereunder. The Company may require you or your legal representative, heir, legatee or distributee, as a condition precedent to such payment or issuance, to execute a release and receipt therefor in such form as it shall determine.

14. **No Guarantee of Value.** Neither the Company nor the Board guarantee the Stock of the Company from loss or depreciation.

the tax and legal consequences of this Agreement. The Company has not provided tax or legal advice to you with respect to your personal tax situation or the tax or legal consequences of this Agreement.

16. **Notices.** All notices required or permitted under this Agreement must be in writing and either personally delivered or sent by e-mail or recognized national or international courier service with signature required. Notices are delivered for purposes of this Agreement on the date on which it is actually received by the person to whom it is properly addressed or, if by courier, two days after the delivery is made and acknowledged.

17. **Waiver of Notice.** Any person entitled to notice hereunder may waive such notice in writing.

18. **Transfer, Assignment, Successors.** The Award shall not be transferable other than by will or the laws of descent and distribution. You may not assign your rights under this Agreement. This Agreement shall be binding upon you, your legal representatives, heirs, legatees and distributees, and upon the Company, its successors and assigns.

19. **Entire Agreement, Severability.** This Agreement, the Promissory Note and the Piggyback Registration Rights Agreement of even date are the entire agreement between you and the Company with respect to the Shares to be delivered to you under this Agreement and stock that may be delivered under the Promissory Note. If any provision of this Agreement is held to be illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining provisions hereof, but such provision shall be fully severable and this Agreement shall be construed and enforced as if the illegal or invalid provision had never been included herein.

20. **Governing Law.** All questions arising with respect to the provisions of this Agreement shall be determined by application of the laws of Delaware, without giving any effect to any conflict of law provisions thereof, except to the extent Delaware state law is preempted by federal law. The obligation of the Company to sell and deliver Stock hereunder is subject to applicable laws and to the approval of any governmental authority required in connection with the authorization, issuance, sale, or delivery of such Stock.

21. **Consent to Jurisdiction and Venue.** You hereby consent and agree that courts located in, or having jurisdiction over, Austin, Texas each shall have personal jurisdiction and proper venue with respect to any dispute between you and the Company arising in connection with the Restricted Shares or this Agreement. In any dispute with the Company, you will not raise, and you hereby expressly waive, any objection or defense to any such jurisdiction as an inconvenient forum.

22. **Amendment.** This Agreement may only be amended by a writing signed by both you and the Company. If the Company advises that amendment is necessary or advisable in light of any addition to or change in any federal or state, tax or securities law or other law or regulation, which change occurs after the date of this Agreement and by its terms applies to the grants of Shares, you will not unreasonably withhold, delay or condition your consent to the amendment.

23. **Definitions.** As used in this Agreement the terms below have the meaning indicated.

(i) **“Board”** means the Company’s Board of Directors.

(ii) **“Code”** means the Internal Revenue Code of 1986, as amended from time to time, including regulations thereunder and successor provisions and regulations thereto.

(iii) **“Exchange Act”** means the Securities Exchange Act of 1934, as amended from time to time, including rules thereunder and successor provisions and rules thereto.

(iv) **“Person”** means any person or entity of any nature whatsoever, specifically including an individual, a firm, a company, an entity, a partnership, a limited liability company, a trust or other entity; a Person, together with that Person’s Affiliates and Associates (as those terms are defined in Rule 12b-2 under the Exchange Act, provided that “registrant” as used in Rule 12b-2 shall mean the Company), and any Persons acting as a partnership, limited partnership, joint venture, association, syndicate or other group (whether or not formally organized), or otherwise acting jointly or in concert or in a coordinated or consciously parallel manner (whether or not pursuant to any express agreement), for the purpose of acquiring, holding, voting or disposing of securities of the Company with such Person, shall be deemed a single “Person.”

(v) **“Securities Act”** means the Securities Act of 1933 and the rules and regulations promulgated thereunder, or any successor law, as it may be amended from time to time.

(vi) **“Stock”** means the Company’s Common Stock, par value .01 per share, and after the merger with PEN means Class A Common Stock, par value \$0.001 per share, of PEN and such other securities as may be substituted (or resubstituted) for Stock under Section 8.

(vii) **“Subsidiary”** means with respect to the Company, any corporation or other entity of which a majority of the voting power of the voting equity securities or equity interest is owned, directly or indirectly, by the Company.

In witness whereof, the parties have executed this Agreement, or caused it to be duly executed by its authorized representative, on the date first written above.

APPLIED NANOTECH HOLDINGS, INC.

By: /s/ Robert Ronstadt
Robert Ronstadt, Chairman

/s/ Douglas P. Baker
Douglas P. Baker

Piggyback Registration Rights Agreement

This is the Piggyback Registration Rights Agreement dated March 10, 2014 by and between Applied Nanotech Holdings, Inc., a Texas corporation (the “Company”) and Douglas Baker, an individual. Terms used with initial capital letters are used as defined in Section 7 of this Agreement.

Background

Baker is acquiring on the date of this Agreement a Promissory Note that APNT may, at its option pay in stock, and he is entering into a Stock Grant Agreement under which he can receive additional shares of stock. The Company is granting him certain rights to register stock received under the Promissory Note or the Stock Grant Agreement (“**Qualifying Shares**”) when the Company is registering shares with the Securities Exchange Commission (“**SEC**”).

Agreement

Baker and the Company agree:

1. Registration Rights.

(a) **Right to Piggyback.** Whenever the Company proposes to register any of its equity securities under the Securities Act (excluding registrations on Forms S-4 or S-8) and the registration form to be used may be used for the registration of Qualifying Shares, whether a sale for the Company’s own account or for selling security holders (a “**Piggyback Registration**”), the Company will give written notice to the Holders’ Representative prior to the filing of the registration statement of the Company’s intention to effect such a registration and, subject to **Section 1(b)** below, will include in such registration all Qualifying Shares with respect to which the Company has received written request for inclusion therein within 10 days after the sending of the Company’s notice.

(b) **Priority.** If a Piggyback Registration is an underwritten registration, and the managing underwriters advise the Company that, in their opinion, the number of securities requested to be included in such registration exceeds the number which can be sold in such offering without adversely affecting the marketability, proposed offering price, timing, distribution method or probability of success of such offering, then the Company will include in such registration (i) first, the securities that the Company proposes to sell, (ii) second, securities the Company is required to register under agreements entered into in 2013 (or earlier) that are not subject to cutback, and (iii) third, Qualifying Shares requested to be included either by Qualified Holders and other Company securities requested to be included by other holders that have registration rights which in the opinion of such underwriters can be sold without adverse effect, pro rata among the holders of such securities on the basis of the number of such securities owned by each such holder . To facilitate the allocation of shares in accordance with the above provisions, the underwriters may round the number of shares allocated to any holder to the nearest 100 shares.

(c) Selection of Underwriters. If any Piggyback Registration is an underwritten offering, the selection of the investment banker(s) and manager(s) for the offering will be made by the Company, in its sole and absolute discretion.

(d) Withdrawal by Company. If, at any time after giving notice of its intention to register any of its securities as set forth in **Section 1(a)** and before the effective date of the registration statement filed in connection with such registration, the Company determines, for any reason, not to register such securities, the Company will give written notice of its determination to the Holder's Representative and will promptly return any materials provided by the Holders to the Company in connection with such registration.

2. Holdback Agreements.

(a) No Holder will make any public sale or distribution (including sales pursuant to Rule 144) of equity securities of the Company, or any securities, options, or rights convertible into or exchangeable or exercisable for such securities, during the Applicable Period (except as part of such underwritten registration), unless the underwriters managing the registered public offering otherwise agree. If requested by the Company, each Holder agrees to execute customary lock-up agreements with the managing underwriter(s) of an underwritten offering with a duration not to exceed the Applicable Period in such form as agreed to by the Holders. The "**Applicable Period**" will begin ten days before and continue for 180 days following the effective date of the registration statement for the first public offering of the Company's equity securities after the date of this Agreement and will begin ten days before and continue for 90 days following the effective date of the registration statement for any other underwritten public offering of the Company's equity securities, subject to extension as required by FINRA rules. If requested by the underwriter(s), each Holder will reconfirm this commitment in writing prior to any such offering.

(b) The Company will not make any public sale or distribution of its equity securities, or any securities convertible into or exchangeable or exercisable for such securities, during the Applicable Period (except as part of such underwritten registration or pursuant to registrations on Form S-4 or S-8 or any successor form), unless the underwriters managing the registered public offering otherwise agree.

3. Registration Procedures.

(a) The Company will use commercially reasonable efforts to effect the registration and the sale of such Qualifying Shares in accordance with the requirements of **Section 1** and the Company will:

(i) prepare and file with the Securities and Exchange Commission a registration statement with respect to the Qualifying Shares that are to be included in the offering and thereafter use commercially reasonable efforts to cause such registration statement to become effective;

(ii) prepare and file with the Securities and Exchange Commission such amendments and supplements or take such other action to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective for such period as will terminate when all of the securities covered by such registration statement during such period have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof set forth in such registration statement (but, in any event, not before the expiration of any longer period required under the Securities Act, or, if such registration statement relates to an underwritten offering, such longer period as in the opinion of counsel for the underwriters a prospectus is required by law to be delivered in connection with sales of Qualifying Shares by an underwriter or dealer), and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement until such time as all of such securities have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof set forth in such registration statement;

(iii) furnish to the participating Holders such number of copies of such registration statement, each amendment and supplement thereto, the prospectus included in such registration statement (including each preliminary prospectus), and such other documents as the participating Holders may reasonably request in order to facilitate the disposition of the Qualifying Shares included in the registration statement;

(iv) use commercially reasonable efforts to register or qualify such Holders' Qualifying Shares under such other securities or blue sky laws of such jurisdictions as the Holders reasonably requests and do any and all other acts and things which may be reasonably necessary or advisable to enable such seller to consummate the disposition in such jurisdictions of the Qualifying Shares owned by the participating Holders, *except* that the Company will not be required to (i) qualify generally to do business in any jurisdiction where it would not otherwise be required to qualify, (ii) subject itself to taxation in any such jurisdiction, or (iii) consent to general service of process in any such jurisdiction;

(v) unless the Company has suspended the offering under Section 3(b), notify the Holders' Representative, at any time when a prospectus relating to any Qualifying Shares is required to be delivered under the Securities Act, upon discovery that, or upon the discovery of the happening of any event as a result of which, the prospectus included in such registration statement contains an untrue statement of a material fact or omits any fact necessary to make the statements therein not misleading in the light of the circumstances under which they were made, and, at the request of the Holders' Representative, the Company will prepare and furnish to the participating Holders a reasonable number of copies of a supplement or amendment to such prospectus so that, as thereafter delivered to the purchasers of such Qualifying Shares, such prospectus will not contain an untrue statement of a material fact or omit to state any fact necessary to make the statements therein not misleading in the light of the circumstances under which they were made;

(vi) use commercially reasonable efforts to cause Qualifying Shares covered by such registration statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the sellers thereof to consummate the disposition of such Qualifying Shares; and

(vii) cooperate with the Holders and each underwriter or agent participating in the disposition of Qualifying Shares and their respective counsel in connection with any filings required to be made with the FINRA.

(b) At any time, if the Company reasonably believes that there is or may be in existence material nonpublic information or events involving the Company, the failure of which to be disclosed in the prospectus included in the registration statement could constitute a material misstatement or omission, then, upon written notice to the Holder's Representative and until the Holders receive copies of the supplemented or amended prospectus, such period not to exceed 60 days (the "**Suspension Period**"), the Company may suspend the use or effectiveness of any registration statement (and the Holders each hereby agree not to offer or sell any Qualifying Shares pursuant to such registration statement during the Suspension Period). If the Company exercises its right to delay or suspend the use or effectiveness of a registration hereunder, the applicable time period during which the registration statement is to remain effective will be extended by a period of time equal to the duration of the Suspension Period. The Company may extend the Suspension Period for an additional consecutive 60 days with the consent of the Holders, which will not be unreasonably withheld. If so directed by the Company, the Holders will (i) not offer to sell any Qualifying Shares pursuant to the registration statement during the period in which the delay or suspension is in effect after receiving notice of such delay or suspension and (ii) use commercially reasonable efforts to deliver to the Company (at the Company's expense) all copies, other than permanent file copies then in the Holders' possession, of the prospectus relating to Qualifying Shares current at the time of receipt of such notice

4. Registration Expenses. All expenses incident to the filing of any Piggyback Registration and to the Company's performance of or compliance with this Agreement (all such expenses being herein called "**Registration Expenses**") will be borne or paid by the Company, including, without limitation, all registration and filing fees, fees and expenses of compliance with securities or blue sky laws, printing expenses, messenger and delivery expenses, fees and disbursements of custodians, fees and disbursements of counsel for the Company, and all independent certified public accountants, underwriters (excluding discounts and commissions), and other Persons retained by the Company, including, without limitation, the Company's internal expenses (e.g., salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit or quarterly review, and the expenses and fees for listing the securities to be registered on each securities exchange on which similar securities issued by the Company are then listed or, if none are so listed, on a securities exchange. The Company will not be responsible for any discounts, commissions, transfer taxes or other similar fees incurred by the Holders in connection with the sale of the Qualifying Shares.

5. Indemnification.

(a) The Company agrees to indemnify and hold harmless, to the full extent permitted by law, each of the Holders, severally and not jointly, their respective officers, directors, members, agents, and employees and each Person who controls the Holders (within the meaning of the Securities Act) against any and all losses, claims, damages, liabilities, joint or several, together with reasonable costs and expenses (including reasonable attorney's fees), to which such indemnified party may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages, or liabilities (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of, are based upon, are caused by, or result from (i) any untrue or alleged untrue statement of material fact contained (A) in any registration statement, prospectus, or preliminary prospectus or any amendment thereof or supplement thereto, or (B) in any application or other document or communication (in this **Section 5** collectively called an "**application**") executed by or on behalf of the Company or based upon written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify any securities covered by such registration statement under the "blue sky" or securities laws thereof, or (ii) any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Company will reimburse the Holders and each such director, officer, member, agent and employee for any legal or any other expenses incurred by them in connection with investigating or defending any such loss, claim, liability, action, or proceeding; *except* that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability (or action or proceeding in respect thereof), or expense arises out of, is based upon, is caused by, or results from an untrue statement or alleged untrue statement, or omission or alleged omission, made in such registration statement, any such prospectus or preliminary prospectus or any amendment or supplement thereto, or in any application, in reliance upon, and in conformity with, written information prepared and furnished to the Company by a Holder or other indemnified party expressly for use therein or by any Holder's failure to deliver a copy of the registration statement or prospectus or any amendments or supplements thereto after the Company has furnished the Holders with a sufficient number of copies of the same.

(b) In connection with any registration statement in which the Holders are participating, each Holder will furnish to the Company in writing such information and affidavits as the Company reasonably requests for use in connection with any such registration statement or prospectus and, to the full extent permitted by law, will, severally and not jointly, indemnify and hold harmless the Company, and its directors, officers, members, agents, and employees and each other Person who controls the Company (within the meaning of the Securities Act) against any losses, claims, damages, liabilities, joint or several, together with reasonable costs and expenses (including reasonable attorney's fees), to which such indemnified party may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages, or liabilities (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of, are based upon, are caused by, or result from (i) any untrue or alleged untrue statement of material fact contained in the registration statement, prospectus or preliminary prospectus or any amendment thereof or supplement thereto or in any application, or (ii) any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, but only to the extent that such untrue statement or omission is made in such registration statement, any such prospectus or preliminary prospectus or any amendment or supplement thereto, or in any application, in reliance upon and in conformity with written information prepared and furnished to the Company by such Holder expressly for use therein. Any Person entitled to indemnification hereunder will (i) give prompt written notice to the indemnifying party of any claim with respect to which it seeks indemnification (except that the failure to give prompt notice will not impair any Person's right to indemnification hereunder to the extent such failure has not prejudiced the indemnifying party), and (ii) unless in such indemnified party's reasonable judgment a conflict of interest between such indemnified and indemnifying parties may exist with respect to such claim, permit such indemnifying party to assume the defense of such claim with counsel reasonably satisfactory to the indemnified party. If such defense is assumed, the indemnifying party will not be subject to any liability for any settlement made by the indemnified party without its consent (but such consent will not be unreasonably withheld, conditioned or delayed). An indemnifying party who is not entitled to, or elects not to, assume the defense of a claim will not be obligated to pay the fees and expenses of more than one counsel for all parties indemnified by such indemnifying party with respect to such claim, unless in the reasonable judgment of any indemnified party a conflict of interest may exist between such indemnified party and any other of such indemnified parties with respect to such claim.

(c) The indemnifying party will not, except with the approval of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to each indemnified party of a release from all liability in respect to such claim or litigation without any payment or consideration provided by such indemnified party.

(d) If the indemnification provided for in this **Section 5** is unavailable to, or is insufficient to hold harmless, an indemnified party under the provisions above in respect to any losses, claims, damages, or liabilities referred to therein, then each indemnifying party will contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages, or liabilities in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and of the Holder and any other sellers participating in the registration statement on the other hand in connection with the registration statement on the other in connection with the statement or omissions which resulted in such losses, claims, damages, or liabilities, as well as any other relevant equitable considerations. The relative fault of the Company on the one hand and of the Holder and any other sellers participating in the registration statement on the other hand will be determined by reference to, among other things, whether the untrue or alleged omission to state a material fact relates to information supplied by or relating to the Company or whether it relates to information supplied by or relating to the Holder or other sellers participating in the registration statement and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission.

(e) The Company and the Holders agree that it would not be just and equitable if contribution pursuant to this **Section 5** were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the losses, claims, damages, and liabilities referred to in the immediately preceding paragraph will be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation.

(f) The indemnification and contribution by any such party provided for under this Agreement will be in addition to any other rights to indemnification or contribution which any indemnified party may have pursuant to law or contract and will remain in full force and effect regardless of any investigation made or omitted by or on behalf of the indemnified party or any officer, director, employee or controlling Person of such indemnified party and will survive the transfer of securities.

6. Participation in Underwritten Registrations.

(a) No Person may participate in any registration hereunder which is underwritten unless such Person (i) agrees to sell such Person's securities on the basis provided in any underwriting arrangements approved by the Person or Persons entitled hereunder to approve such arrangements (including, without limitation, pursuant to the terms of any over-allotment or "green shoe" option requested by the managing underwriter(s); *except* that a Holder will not be required to sell more than the number of Holders Qualifying Shares that the Holder has requested the Company to include in any registration), and (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements, and other documents reasonably required under the terms of such underwriting arrangements.

(b) Each Person that is participating in any registration hereunder agrees that, upon receipt of any notice from the Company of the initiation of a Suspension Period, such Person will forthwith discontinue the disposition of its Qualifying Shares pursuant to the registration statement until such Person's receipt of the copies of a supplemented or amended prospectus.

7. Definitions.

“Board” means the board of directors of the Company.

“Exchange Act” means the Securities Exchange Act of 1934, as amended, or any successor federal statute, and the rules and regulations promulgated thereunder, all as amended, modified or supplemented from time to time.

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

“Qualifying Shares” has the meaning set forth in the Background section

“Holders’ Representative” means the person designated from time to time by the Holders of Qualifying Shares or, as to a particular registration statement that includes Qualifying Shares, the person designated by those Holders who have Qualifying Shares included in the registration statement. The Company will only recognize one Holders’ Representative at any time. Until the Company is notified otherwise, the Holders Representative is Baker.

“Securities Act” means the Securities Act of 1933, as amended, or any successor federal statute, and the rules and regulations promulgated thereunder, all as amended, modified or supplemented from time to time.

“Suspension Period” has the meaning set forth in **Section 3(b)**.

8. Miscellaneous.

(a) Amendment and Waiver. No modification, amendment, or waiver of any provision of this Agreement will be effective unless such modification, amendment, or waiver is approved in writing by the parties. The failure of any party to enforce any of the provisions of this Agreement will in no way be construed as a waiver of such provisions and will not affect the right of such party thereafter to enforce each and every provision of this Agreement in accordance with its terms.

(b) Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed, and enforced in such jurisdiction as if such invalid, illegal, or unenforceable provision had never been contained herein.

(c) Entire Agreement. Except as otherwise expressly set forth herein, this Agreement is the complete agreement and understanding among the parties related to the subject matter hereof.

(d) Successors and Assigns. Neither party may assign this Agreement without the consent of the other party. Subject to the foregoing, all of the terms and provisions of this Agreement will inure to the benefit of and be binding upon the parties hereto and their respective executors, heirs, personal representatives, successors and assigns.

(e) Counterparts. This Agreement may be executed in any number of counterparts and delivered via facsimile or attachment to electronic mail, each of which when executed and delivered will be deemed to be an original and all of which counterparts taken together will constitute but one and the same instrument.

(f) Remedies. Any Person having rights under any provision of this Agreement will be entitled to enforce their rights under this Agreement specifically to recover damages by reason of any breach of any provision of this Agreement and to exercise all other rights existing in their favor; except that the parties hereto stipulate that the remedies at law of any party hereto in the event of any default or threatened default by any other party hereto in the performance of or compliance with the terms hereof are not and will not be adequate and that, to the fullest extent permitted by law, such terms may be specifically enforced (without posting a bond or other security) by a decree for the specific performance thereof, whether by an injunction against violation thereof or otherwise.

(g) Notices. Any notice, request, demand, waiver, consent, approval or other communication which is required or permitted hereunder will be in writing and will be deemed given (i) on the date established by the sender as having been delivered personally, (ii) on the date delivered by a private courier as established by the sender by evidence obtained from the courier, or (iii) on the seventh day after the date mailed return receipt requested, postage prepaid with a confirming e-mail or phone call made when the notice is sent. Such communications, to be valid, must be addressed as follows:

If to the Holders, to:
Douglas P. Baker
5154 Springdale Court
Clarkston, MI 48348

If to the Company, to:

Applied Nanotech Holdings, Inc.
c/o PEN Inc.
9 Diamond Drive
Key West, FL 33040
Attn: Jeanne Rickert, General Counsel

With a copy to:

Laura Anthony, Esq.
Legal & Compliance, LLC
330 Clematis Street, Suite 217
West Palm Beach, FL 33401

or to such other address or to the attention of such person or persons as the recipient party has specified by prior written notice to the sending party (or in the case of counsel, to such other readily ascertainable business address as such counsel may hereafter maintain). If more than one method for sending notice as set forth above is used, the earliest notice date established as set forth above will control.

(h) Governing Law. This Agreement will be governed by and interpreted and enforced in accordance with the Laws of the State of New York, without giving effect to any choice of Law or conflict of Laws rules or provisions that would cause the application of the Laws of any jurisdiction other than the State of New York.

(i) Consent to Jurisdiction. Each party irrevocably submits to the jurisdiction of (i) the State of New York, and (ii) the United States District Court for the Southern District of New York, for the purposes of any action arising out of this Agreement or any transaction contemplated hereby. Each party agrees to commence any such action either in the United States District Court for the Southern District of New York or, if such action may not be brought in such court for jurisdictional reasons, in the state courts of the State of New York. Each party further agrees that service of any process, summons, notice or document by U.S. registered mail to such party's respective address set forth above will be effective service of process for any action in the State of New York with respect to any matters to which it has submitted to jurisdiction in this **Section 8(i)**. Each party irrevocably and unconditionally waives any objection to the laying of venue of any action arising out of this Agreement or the transactions contemplated hereby in the State of New York, and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such action brought in any such court has been brought in an inconvenient forum. EACH PARTY HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE ACTIONS OF SUCH PARTY IN THE NEGOTIATION, ADMINISTRATION, PERFORMANCE AND ENFORCEMENT HEREOF AND THEREOF.

(j) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction will be applied against any party.

(k) Business Days. If any time period for giving notice or taking action hereunder expires on a day which is a Saturday, Sunday or legal holiday in the state in which the Company's chief executive office is located, the time period will automatically be extended to the business day immediately following such Saturday, Sunday or legal holiday.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement on the day and year first above written.

Applied Nanotech Holdings Inc.

By: /s/ Robert Ronstadt
Robert Ronstadt, Chairman

/s/ Doug Baker
Doug Baker

[Signature Page to Registration Rights Agreement]



March 10, 2014

Dr. Zvi Yaniv
President and Chief Operating Officer
Applied Nanotech Holdings, Inc.
3006 Longhorn Boulevard, Suite 107
Austin, Texas 78758

Dear Zvi,

As you know, the Board of Applied Nanotech Holdings, Inc. (the "Company") has approved today the Agreement and Plan of Merger and Exchange (the "Merger Agreement") by and among the Company, NanoMerger Sub Inc., PEN Inc., NanoHolding Inc. and Carl Zeiss, Inc.. If the transactions contemplated by that Merger Agreement become effective with the Company merging into PEN, Inc. ("PEN"), you agree that at the closing you and PEN and its subsidiaries, as applicable, will execute and deliver the following documents:

1. Termination of Employment Agreement and Mutual Releases in the form attached to this letter as Annex A;
2. Letter Agreement regarding continued employment attached as Annex B;
3. Restricted Stock Agreement attached as Annex C;
4. Piggyback Registration Rights Agreement attached as Annex D; and
5. Form of Confidentiality Agreement executed by all employees of PEN.

In addition, on the closing date, the Company (or its successor) will enter into a Services Agreement in the form attached as Annex E with a service company that you identify.

Your stock options, along with other options of the Company, will not be affected by the Mergers. You will agree to amend your convertible note and convert it to stock of PEN on terms substantially the same as those agreed to by the other non-employee noteholders who hold similar notes.

You have indicated that you plan to continue to follow the direction of the Company's board of directors with respect to the transactions described in the Merger Agreement and the implementation of any board approved budget and other matters. However, you are authorized and requested to work with Scott Rickert and any others associated with Nanofilm that he may identify in order to help them better understand the technology of the Company and its subsidiaries and potential applications of that technology to products that can be developed by the Company following the Mergers.

In the event that the Mergers have not become effective, and the transactions described in the Merger Agreement have not been closed on or before the first to occur of (i) the "End Date" as defined in the Merger Agreement or (ii) September 30, 2014, this letter agreement shall terminate automatically and neither party shall have any further obligations under it. Also, if the parties to the Merger Agreement terminate that agreement, this letter agreement shall terminate automatically and neither party shall have any further obligations under this letter.

Please confirm your agreement with the matters described herein by your signature below.

Sincerely,

/s/ Robert Ronstadt
Robert Ronstadt
Chairman

Agreed:

/s/ Zvi Yaniv
Zvi Yaniv



ANNEX A

**TERMINATION OF EMPLOYMENT AGREEMENT
AND MUTUAL RELEASES**

This Termination of Employment Agreement and Mutual Releases (this “Agreement”) is entered into by and between PEN, Inc., a Delaware corporation (the “Company”), and its subsidiaries, Applied Nanotech, Inc., E.B.T., Inc. and EZDiagnostiX, Inc. (collectively, the “Subsidiaries”), and Zvi Yaniv, a resident of Travis County, Texas (“Employee”), and the parties agree as follows:

1. Recitals.

- (a) Employee entered into that certain Employment Agreement dated June 1, 1996 (the “Employment Agreement”) with SI Diamond Technology, Inc., a Texas corporation (“SIDT”);
- (b) SIDT changed its name to “Applied Nanotech Holdings, Inc.”;
- (c) Applied Nanotech Holdings, Inc. has been a party to a merger (“Merger”) in which the surviving company is the Company and as a result of which the Company is the owner and holder of all rights of SIDT under the Employment Agreement;
- (d) Applied Nanotech, Inc., E.B.T., Inc. and EZDiagnostiX, Inc. are wholly owned subsidiaries of the Company;
- (e) Employee has served as director, president and chief operating officer of Applied Nanotech Holdings, Inc. and as CEO of Applied Nanotech, Inc.;
- (f) Following the mergers, Employee shall continue his employment (on an “at will” basis) with the Company but is resigning in all of his capacities as executive officer and director of the Company and each of the Subsidiaries;
- (g) Employee is the holder of certain shares of stock (“Company Stock”), stock options issued by Applied Nanotech Holdings, Inc. (the “Options”), and such Company Stock and Options are now Company Stock and Options of the Company;
- (h) Prior to the closing of the Merger, Employee was the holder of certain indebtedness of Applied Nanotech, Inc. incurred in connection with loans made by Employee (the “Debt”);

- (i) The Company has granted to Employee 6,800,000 shares of the Class A common stock of the Company (the “Restricted Stock”) subject to the terms, conditions and restrictions set forth in that certain Restricted Stock Agreement of even date with this Agreement (“Restricted Stock Agreement”);
 - (j) Company and Employee desire to terminate the Employment Agreement and to release each other from all obligations and liabilities with respect to the same as more particularly set forth below;
 - (k) Each of the Company and Employee acknowledges and agrees that each has given and received good, present and sufficient consideration to support each of the obligations of the Company and the Employee as set forth in this Agreement.
2. Termination of Employment Agreement. The Company and the Employee agree that the Employment Agreement is hereby terminated and shall be of no force or effect from and after the date of this Agreement.
3. Release by Employee. The Employee releases, acquits and discharges the Company and the Subsidiaries of and from any and all claims, demands, liabilities, suits, causes of action or obligations whether arising under common law, statute or contract (collectively, “Claims”) arising under or in connection with the Employment Agreement as well as any Claims of the Employee arising in connection with the employment relationship of Employee with, or service to, any of the Company or any of the Subsidiaries to the date of this Agreement, including, without limitation, all Claims relating to salary, bonus, benefits and severance; provided, however, that this Agreement shall not release, limit or impair any of the rights of Employee as the owner of Company Stock, the Stock Options, the Restricted Stock, any of the Debt that for any reason has not been converted into Company Stock in connection with the Merger, any obligations of the Company or any of the Subsidiaries (under its bylaws or otherwise) to indemnify, defend or hold Employee harmless from any claims that may be asserted against him with respect to his service as an officer, director and/or employee of the Company or any of the Subsidiaries through the date of this Agreement, or any rights of Employee under any policy of insurance (including, without limitation, directors and officers liability insurance).
4. Release by Company and the Subsidiaries of the Employee. Each of the Company and the Subsidiaries releases, acquits and discharges Employee of and from any and all Claims of any kind, including, without limitation, any and all Claims arising out of or in connection with the Employment Agreement and Employee’s prior service to the Company and/or any of the Subsidiaries as a director, officer and/or employee.
5. Resignation. Employee hereby resigns in all of his capacities as a director and executive officer of the Company and each of the Subsidiaries.
6. General Provisions.
- (a) This Agreement constitutes the final agreement of the parties with respect to the subject matter of the same and all prior discussions and negotiations are merged in this Agreement;

(b) This Agreement shall be governed by Texas law and any and all disputes with respect to this Agreement shall be submitted to a court of competent jurisdiction located in Travis County, Texas.

Executed to be effective _____, 2014.

COMPANY:

PEN, Inc., a Delaware corporation

By: _____
Name: Scott E. Rickert
Title: Chief Executive Officer

SUBSIDIARIES:

Applied Nanotech, Inc., a Delaware corporation

By: _____
Name: _____
Title: _____

E.B.T., Inc., a Delaware corporation

By: _____
Name: _____
Title: _____

EZDiagnostiX, Inc., a Texas corporation

By: _____
Name: _____
Title: _____

RESTRICTED STOCK AGREEMENT

This Agreement is made and entered into as of the [Date of Merger becoming effective] __, 2014 (the “Date of Grant”) by and between PEN, Inc., a Delaware corporation (the “Company”), and Zvi Yaniv (“you”).

WHEREAS, the Company in order to induce you to continue and dedicate service to the Company and to materially contribute to the success of the Company grants you this restricted stock award (the “Award”); and

WHEREAS, you desire to accept the Award made pursuant to this Agreement.

NOW, THEREFORE, in consideration of and mutual covenants set forth herein and for other valuable consideration hereinafter set forth, the parties agree as follows:

1. **The Grant.** Subject to the conditions set forth below, the Company hereby grants you effective as of the Date of Grant, as a matter of separate inducement but not in lieu of any salary or other compensation for your services for the Company, 6,800,000 shares (the “Restricted Shares”) of Class A Common Stock of the Company (the “Company Stock”).

2. **Escrow of Restricted Shares.** The Restricted Shares shall be deemed issued to you on the Date of Grant but shall be subject to the restrictions and risk of forfeiture set forth in this Agreement. The Company shall cause you to be entered on the register of stockholders of the Company as the holder of the Restricted subject to the provisions of this Agreement until the Forfeiture Restrictions (defined below) on such Restricted Shares expire as contemplated in Sections 5 and 6 of this Agreement or the Restricted Shares are forfeited as described in Sections 4 and 7 of this Agreement. You shall execute one or more instructions or stock powers in blank for the Restricted Shares and deliver those to the Company. The Company shall hold the Restricted Shares and the related instructions or stock powers pursuant to the terms of this Agreement until such time as (a) the Forfeiture Restrictions on the Restricted Shares expire (in which event the Company shall promptly deliver to you stock certificates or other instruments evidencing your ownership free of restrictions as to the Restricted Shares for which the Forfeiture Restrictions have expired) or (b) the Restricted Shares are canceled and forfeited pursuant to this Agreement.

3. **Ownership of Restricted Shares.** From and after the Date of Grant, you will be entitled to all the rights of absolute ownership of the Restricted Shares, including the right to vote those shares and to receive dividends thereon if, as, and when declared by the Board, subject to the terms, conditions and restrictions set forth in this Agreement; except, that (i) any dividends that are declared with respect to Restricted Shares for which the Forfeiture Restrictions have not yet expired shall be subject to the same Forfeiture Restrictions applicable to the Restricted Shares for which the dividend was paid and (ii) that any such dividends shall be payable to you no later than 30 days following the expiration of the Forfeiture Restrictions applicable to such shares.

4. **Restrictions; Forfeiture.** The Restricted Shares are restricted in that they may not be sold, transferred or otherwise alienated or hypothecated until the Forfeiture Restrictions are removed or expire as contemplated in Sections 5 and 6 of this Agreement. The Restricted Shares are also restricted in the sense that they may be forfeited to the Company in accordance with Section 7 below (the “Forfeiture Restrictions”). You hereby agree that if the Restricted Shares are forfeited, as provided in Section 7, the Company shall have the right to deliver the Restricted Shares to the Company’s transfer agent for, at the Company’s election, cancellation or transfer to the Company.

5. **Expiration of Restrictions and Risk of Forfeiture.** The Forfeiture Restrictions on the Restricted Shares granted pursuant to this Agreement will expire and, subject to, and conditioned upon, the payment required under Section 10, the Restricted Shares will become transferable and nonforfeitable upon the first to occur of (i) a Change in Control of the Company (as defined in Section 26(ii)), (ii) the death of Zvi Yaniv, or (iii) Stock Price Vesting.

6. **Stock Price Vesting.** Stock Price Vesting will be effective upon the last to occur of:

a. The day that is 180 days from Date of Grant;

b. The average stock price of PEN shares for ten consecutive Trading Days reaching thresholds set forth below which will cause vesting of the number of shares indicated:

Threshold Price:	Number of Shares
\$.10	1,000,000
\$.15	1,000,000
\$.20	1,000,000
\$.25	1,000,000
\$.30	1,000,000
\$.35	1,800,000

Trading Days does not include the 60 trading days following the Date of Grant.

7. **Forfeiture.** Any Restricted Shares with respect to which the Forfeited Restrictions have not expired by the fifth anniversary of the date of grant will be forfeited. If you fail to make the payment required under Section 10 for any Restricted Shares (or dividends payable with respect to Restricted Shares) with respect to which the Forfeiture Restrictions would otherwise expire, those Restricted Shares (or dividends, as applicable) will be forfeited.

8. **Beneficiary.** You may designate a Beneficiary by notice to the Company. “Beneficiary” means one or more persons, trusts or other entities which have been designated by you, in your most recent written beneficiary designation filed with the Company, to receive the benefits specified under this Agreement upon your death. If, upon a your death, there is no designated Beneficiary or surviving designated Beneficiary, then the term Beneficiary means the persons, trusts or other entities entitled by will or the laws of descent and distribution to receive such benefits.

9. Delivery of Stock. Promptly following the expiration of the Forfeiture Restrictions on the Restricted Shares as contemplated in Section 5 of this Agreement, the Company shall cause to be issued and delivered to you or your designee a certificate or other evidence of the number of Restricted Shares as to which restrictions have expired, free of any restrictive legend relating to the lapsed restrictions, upon receipt by the Company of any tax withholding as may be required pursuant to Section 10, subject to forfeiture for failure to pay as set forth in Section 6. The value of such Restricted Shares shall not bear any interest owing to the passage of time.

10. Payment of Taxes. As a condition to the expiration of the Forfeiture Restrictions with respect to any of the Restricted Shares (with respect to which such Forfeiture Restrictions would otherwise expire in accordance with Section 5), you are required to pay cash to the Company (or the Company's Subsidiary if you are an employee of a Subsidiary of the Company) for transmittal to the Internal Revenue Service or other government authority in an amount that is determined below not later than 60 days after the Company provides written notice to you or after you provide written notice to the Company that one of the conditions of Section 5 has been met. The amount due is the amount of all taxes that the Company (or its Subsidiary's) is required by law to withhold as a result of the issuance and delivery of any Restricted Shares pursuant to Section 9 hereof. Such amount will be reasonably calculated by the Company (or its Subsidiary). The Company will afford you a reasonable opportunity to review and comment on the calculation by the Company (or its Subsidiary). For clarity, the Company (or its Subsidiary) will not withhold and transmit to the Internal Revenue Service or other government authority any amount with respect to Restricted Shares other than the amount that you pay to the Company (or its Subsidiary).

11. Compliance with Securities Law.

a. You acknowledge and agree that (i) you are not relying upon any determination by the Company, its affiliates, or any of their respective employees, directors, officers, attorneys or agents (collectively, the "Company Parties") of the Fair Market Value of the Company Stock on the Date of Grant, (ii) you are not relying upon any written or oral statement or representation of the Company Parties regarding the tax effects associated with your execution of this Agreement and your receipt, holding and vesting of the Restricted Shares, and (iii) in deciding to enter into this Agreement, you are relying on your own judgment and the judgment of the professionals of your choice with whom you have consulted. You hereby release, acquit and forever discharge the Company Parties from all actions, causes of actions, suits, debts, obligations, liabilities, claims, damages, losses, costs and expenses of any nature whatsoever, known or unknown, on account of, arising out of, or in any way related to the tax effects associated with your execution of the Agreement and your receipt, holding and exercise of the Restricted Shares.

b. The issuance of Company Stock (including Restricted Shares) will be subject to compliance with all applicable requirements of federal, state, or foreign law with respect to such securities and with the requirements of any stock exchange or market system upon which the Company Stock may then be listed. No Company Stock will be issued hereunder if such issuance would constitute a violation of any applicable federal, state, or foreign securities laws or other law or regulations or the requirements of any stock exchange or market system upon which the Company Stock may then be listed. In addition, Company Stock will not be issued hereunder unless (i) a registration statement under the Securities Act, is at the time of issuance in effect with respect to the shares issued or (ii) in the opinion of legal counsel to the Company, the shares issued may be issued in accordance with the terms of an applicable exemption from the registration requirements of the Act. The inability of the Company to obtain from any regulatory body having jurisdiction the authority, if any, deemed by the Company's legal counsel to be necessary to the lawful issuance and sale of any shares subject to the Award will relieve the Company of any liability in respect of the failure to issue such shares as to which such requisite authority has not been obtained. As a condition to any issuance hereunder, the Company may require you to satisfy any qualifications that may be necessary or appropriate to evidence compliance with any applicable law or regulation and to make any representation or warranty with respect to such compliance as may be requested by the Company. From time to time, the Board and appropriate officers of the Company are authorized to take the actions necessary and appropriate to file required documents with governmental authorities, stock exchanges, and other appropriate Persons to make shares of Company Stock available for issuance.

12. Subdivision or Consolidation; Recapitalization; Reorganization .

a. The existence of this Agreement and the Award shall not affect in any way the right or power of the Board or the stockholders of the Company to make or authorize any adjustment, recapitalization, reorganization or other change in the Company's capital structure or its business, any merger or consolidation of the Company, any issue of debt or equity securities ahead of or affecting Company Stock or the rights thereof, the dissolution or liquidation of the Company or any sale, lease, exchange or other disposition of all or any part of its assets or business or any other corporate act or proceeding. In no event will any action taken by the Company pursuant to this Section 12 result in the creation of deferred compensation within the meaning of the Nonqualified Deferred Compensation Rules.

b. The Award and the number of Restricted Shares subject to the Award shall be subject to adjustment from time to time, in accordance with the following provisions:

(i) If at any time, or from time to time, the Company shall subdivide as a whole (by reclassification, by a stock split, by the issuance of a distribution on Company Stock payable in Company Stock, or otherwise) the number of Restricted Shares of Company Stock then outstanding into a greater number of shares of Company Stock, then the number of Restricted Shares shall be increased proportionately and the Threshold Price under Section 6b shall be decreased proportionately.

(ii) If at any time, or from time to time, the Company shall consolidate as a whole (by reclassification, by reverse stock split or otherwise) the number of shares of Company Stock then outstanding into a lesser number of shares of Company Stock, then the number of Restricted Shares shall be decreased proportionately and the Threshold Price under Section 6b shall be increased proportionately.

(iii) Whenever the number of Restricted Shares and the Threshold Price are required to be adjusted as provided in this Subsection 12b, the Company shall promptly prepare, and deliver to you, a notice setting forth, in reasonable detail, the event requiring adjustment, the amount of the adjustment, the method by which such adjustment was calculated, and the Threshold Price after giving effect to the adjustments.

(iv) Adjustments under Subsections 12b(i) and (ii) shall be made by the Company, and its reasonable determination as to what adjustments shall be made and the extent thereof shall be final, binding, and conclusive. No fractional interest shall be issued on account of any such adjustments.

c. The issuance by the Company of shares of stock of any class or securities convertible into shares of stock of any class, for cash, property, labor or services, upon direct sale, upon the exercise of rights or warrants to subscribe therefor, or upon conversion of shares or obligations of the Company convertible into such shares or other securities, and in any case whether or not for fair value, shall not affect, and no adjustment by reason thereof shall be made with respect to, the number of shares of Company Stock subject to the Award or the Threshold Price.

13. **Legends.** The Company may at any time place legends referencing any restrictions imposed on the shares pursuant to this Agreement on all certificates or other evidence of ownership representing shares issued with respect to this Award.

14. **Right of the Company and Subsidiaries to Terminate Services.** Nothing in this Agreement confers upon you the right to continue in the employ of or performing services for the Company or any Subsidiary. Termination of your employment relationship with the Company shall have no effect on your rights under this Agreement.

15. **Furnish Information.** You agree to furnish to the Company all information requested by the Company to enable it to comply with any reporting or other requirements imposed upon the Company by or under any applicable statute or regulation.

16. **No Guarantee of Value.** Neither the Company nor the Board guarantee the Company Stock from loss or depreciation.

17. **Tax Advice, Section 83(b) Election.** You understand and acknowledge that you should consult and have consulted with your tax advisor regarding the tax consequences of this Agreement and the advisability of filing with the Internal Revenue Service an election under section 83(b) of the Code with respect to the Restricted Shares for which the restrictions have not lapsed. You confirm that you have consulted with your own tax advisor regarding the tax consequences of this Agreement (and related transactions) and that you will not make any election under section 83(b) of the Code with respect to any portion of the Award.

18. **Notices.** All notices required or permitted under this Agreement must be in writing and either personally delivered or sent by mail or recognized national or international courier service with confirming phone call or e-mail. Notices are delivered for purposes of this Agreement on the date on which it is actually received by the person to whom it is properly addressed or, if earlier seven business days after the date it is sent by United States mail or by recognized national or international courier.

19. **Waiver of Notice.** Any person entitled to notice hereunder may waive such notice in writing.

20. **Transfer, Assignment, Successors.** Prior to the expiration of Forfeiture Restrictions on Restricted Shares such Restricted Shares may not be transferred. You may not assign your rights under this Agreement except by will and the laws of descent and distribution. This Agreement shall be binding upon you, your legal representatives, heirs, legatees and distributees, and upon the Company, its successors and assigns.

21. **Entire Agreement, Severability.** This Agreement and the Piggyback Registration Rights Agreement of even date are the entire agreement between you and the Company with respect to the Award and the Restricted Shares issued under this Agreement. If any provision of this Agreement is held to be illegal or invalid for any reason, the illegality or invalidity shall not affect the remaining provisions hereof, but such provision shall be fully severable and this Agreement shall be construed and enforced as if the illegal or invalid provision had never been included herein.

22. **Company Action.** Any action required of the Company shall be by resolution of the Board or by a person or entity authorized to act by resolution of the Board.

23. **Governing Law.** All questions arising with respect to the provisions of this Agreement shall be determined by application of the laws of Texas, without giving any effect to any conflict of law provisions thereof, except to the extent Texas state law is preempted by federal law.

24. **Consent to Jurisdiction and Venue.** You hereby consent and agree that any disposition arising under this Agreement shall be submitted to a court having jurisdiction and located in Travis County, Texas and each party submits to the jurisdiction of such courts. In any dispute with the Company, you will not raise, and you hereby expressly waive, any objection or defense to any such jurisdiction and venue as an inconvenient forum.

25. **Amendment.** This Agreement may only be amended by a writing signed by both you and the Company.

26. **Definitions.** As used in this Agreement the terms below have the meaning indicated.

(i) "Board" means the Company's Board of Directors.

(ii) "Change in Control" means (i) a sale of all or substantially all of the Company's assets other than to an Excluded Entity (as defined below), (ii) a merger, consolidation or other capital reorganization or business combination transaction of the Company with or into another corporation, limited liability company or other entity other than an Excluded Entity, or (iii) the consummation of a transaction, or series of related transactions, in which any "person" (as such term is used in Sections 13(d) and 14(d) of the Exchange Act) becomes the "beneficial owner" (as defined in Rule 13d-3 of the Exchange Act), directly or indirectly, of all of the Company's then outstanding voting securities. Notwithstanding the foregoing, a transaction shall not constitute a Change in Control if its purpose is solely to (A) change the jurisdiction of the Company's incorporation, (B) create a holding company that will be owned in substantially the same proportions by the persons who hold the Company's securities immediately before such transaction, or (C) obtain funding for the Company in a financing that is approved by the Company's Board. An "Excluded Entity" means a corporation or other entity of which the holders of voting capital stock of the Company outstanding immediately prior to such transaction are the direct or indirect holders of voting securities representing at least a majority of the votes entitled to be cast by all of such corporation's or other entity's voting securities outstanding immediately after such transaction.

(iii) “Code” means the Internal Revenue Code of 1986, as amended from time to time, including regulations thereunder and successor provisions and regulations thereto.

(iv) “Exchange Act” means the Securities Exchange Act of 1934, as amended from time to time, including rules thereunder and successor provisions and rules thereto.

(v) “Person” means any person or entity of any nature whatsoever, specifically including an individual, a firm, a company, an entity, a partnership, a limited liability company, a trust or other entity; a Person, together with that Person’s Affiliates and Associates (as those terms are defined in Rule 12b-2 under the Exchange Act, provided that “registrant” as used in Rule 12b-2 shall mean the Company), and any Persons acting as a partnership, limited partnership, joint venture, association, syndicate or other group (whether or not formally organized), or otherwise acting jointly or in concert or in a coordinated or consciously parallel manner (whether or not pursuant to any express agreement), for the purpose of acquiring, holding, voting or disposing of securities of the Company with such Person, shall be deemed a single “Person.”

(vi) “Securities Act” means the Securities Act of 1933 and the rules and regulations promulgated thereunder, or any successor law, as it may be amended from time to time.

(vii) “Subsidiary” means with respect to the Company, any corporation or other entity of which a majority of the voting power of the voting equity securities or equity interest is owned, directly or indirectly, by the Company.

[ADD closing, sig blocks and notice addresses (including phone and e-mail to confirm notices as required for notices delivered by mail or courier under Section 18.)

Piggyback Registration Rights Agreement

This is the Piggyback Registration Rights Agreement (this “**Agreement**”) dated [Effective Date of Merger]_____, 2014 by and between PEN, Inc., a Delaware corporation (the “**Company**”) and Zvi Yaniv, an individual (together with his heirs “**Holder**”). Terms used with initial capital letters are used as defined in **Section 7** of this Agreement.

Background

Holder is acquiring on the date of this Agreement 6,800,000 shares of restricted Company Common Stock (the “**Holder Stock**”) under a Restricted Stock Agreement of even date with this Agreement (the “**Restricted Stock Agreement**”). The Company is granting Holder certain rights to register Holder Stock that are no longer subject to risk of forfeiture when the Company is registering shares with the Securities Exchange Commission (“**SEC**”).

Agreement

Yaniv and the Company agree:

1. Registration Rights.

(a) **Right to Piggyback.** Whenever the Company proposes to register any of its equity securities under the Securities Act (excluding registrations on Forms S-4 or S-8) and the registration form to be used may be used for the registration of Qualifying Shares, whether a sale for the Company’s own account or for selling security holders (a “**Piggyback Registration**”), the Company will give written notice to the Holders’ Representative prior to the filing of the registration statement of the Company’s intention to effect such a registration and, subject to **Section 1(b)** below, will include in such registration all Qualifying Shares with respect to which the Company has received written request for inclusion for Holder within 10 days after the sending of the Company’s notice.

(b) **Priority.** If a Piggyback Registration is an underwritten registration, and the managing underwriters advise the Company that, in their opinion, the number of securities requested to be included in such registration exceeds the number which can be sold in such offering without adversely affecting the marketability, proposed offering price, timing, distribution method or probability of success of such offering, then the Company will include in such registration (i) first, the securities that the Company proposes to sell, (ii) second, securities the Company is required to register under agreements entered into in 2013 (or earlier) that are not subject to cutback, and (iii) third, Qualifying Shares requested to be included either by Holder or other Company securities requested to be included by other holders that have registration rights which in the opinion of such underwriters can be sold without adverse effect, pro rata among the holders of such securities on the basis of the number of such securities owned by each such holder. To facilitate the allocation of shares in accordance with the above provisions, the underwriters may round the number of shares allocated to any holder to the nearest 100 shares.

(c) Selection of Underwriters. If any Piggyback Registration is an underwritten offering, the selection of the investment banker(s) and manager(s) for the offering will be made by the Company, in its sole and absolute discretion.

(d) Withdrawal by Company. If, at any time after giving notice of its intention to register any of its securities as set forth in **Section 1(a)** and before the effective date of the registration statement filed in connection with such registration, the Company determines, for any reason, not to register such securities, the Company will give written notice of its determination to the Holder's Representative and will promptly return any materials provided by the Holders to the Company in connection with such registration.

2. Holdback Agreements.

(a) No Participating Holder will make any public sale or distribution (including sales pursuant to Rule 144) of equity securities of the Company, or any securities, options, or rights convertible into or exchangeable or exercisable for such securities, during the Applicable Period (except as part of such underwritten registration), unless the underwriters managing the registered public offering otherwise agree. If requested by the Company, each Participating Holder agrees to execute customary lock-up agreements with the managing underwriter(s) of an underwritten offering with a duration not to exceed the Applicable Period in such form as agreed to by the Holders. The "**Applicable Period**" will begin ten days before and continue for 180 days following the effective date of the registration statement for the first public offering of the Company's equity securities after the date of this Agreement and will begin ten days before and continue for 90 days following the effective date of the registration statement for any other underwritten public offering of the Company's equity securities, subject to extension as required by FINRA rules. If requested by the underwriter(s), each Participating Holder will reconfirm this commitment in writing prior to any such offering.

(b) The Company will not make any public sale or distribution of its equity securities, or any securities convertible into or exchangeable or exercisable for such securities, during the Applicable Period (except as part of such underwritten registration or pursuant to registrations on Form S-4 or S-8 or any successor form), unless the underwriters managing the registered public offering otherwise agree.

3. Registration Procedures.

(a) The Company will use commercially reasonable efforts to effect the registration and the sale of all Qualifying Shares in accordance with the requirements of **Section 1** and the Company will:

(i) prepare and file with the Securities and Exchange Commission a registration statement with respect to the Qualifying Shares that are to be included in the offering and thereafter use commercially reasonable efforts to cause such registration statement to become effective;

(ii) prepare and file with the Securities and Exchange Commission such amendments and supplements or take such other action to such registration statement and the prospectus used in connection therewith as may be necessary to keep such registration statement effective for such period as will terminate when all of the securities covered by such registration statement during such period have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof set forth in such registration statement (but, in any event, not before the expiration of any longer period required under the Securities Act, or, if such registration statement relates to an underwritten offering, such longer period as in the opinion of counsel for the underwriters a prospectus is required by law to be delivered in connection with the sale of Qualifying Shares by an underwriter or dealer), and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such registration statement until such time as all of such securities have been disposed of in accordance with the intended methods of disposition by the seller or sellers thereof set forth in such registration statement;

(iii) furnish to the Participating Holders such number of copies of such registration statement, each amendment and supplement thereto, the prospectus included in such registration statement (including each preliminary prospectus), and such other documents as the Participating Holders may reasonably request in order to facilitate the disposition of the Qualifying Shares included in the registration statement;

(iv) use commercially reasonable efforts to register or qualify such Participating Holders' Qualifying Shares under such other securities or blue sky laws of such jurisdictions as the Holders reasonably requests and do any and all other acts and things which may be reasonably necessary or advisable to enable such seller to consummate the disposition in such jurisdictions of the Qualifying Shares owned by the Participating Holders, *except* that the Company will not be required to (i) qualify generally to do business in any jurisdiction where it would not otherwise be required to qualify, (ii) subject itself to taxation in any such jurisdiction, or (iii) consent to general service of process in any such jurisdiction;

(v) unless the Company has suspended the offering under **Section 3(b)**, notify the Holders' Representative, at any time when a prospectus relating to any Qualifying Shares is required to be delivered under the Securities Act, upon discovery that, or upon the discovery of the happening of any event as a result of which, the prospectus included in such registration statement contains an untrue statement of a material fact or omits any fact necessary to make the statements therein not misleading in the light of the circumstances under which they were made, and, at the request of the Holders' Representative, the Company will prepare and furnish to the Participating Holders a reasonable number of copies of a supplement or amendment to such prospectus so that, as thereafter delivered to the purchasers of such Qualifying Shares, such prospectus will not contain an untrue statement of a material fact or omit to state any fact necessary to make the statements therein not misleading in the light of the circumstances under which they were made;

(vi) use commercially reasonable efforts to cause Qualifying Shares covered by such registration statement to be registered with or approved by such other governmental agencies or authorities as may be necessary to enable the sellers thereof to consummate the disposition of such Qualifying Shares; and

(vii) cooperate with the Participating Holders and each underwriter or agent participating in the disposition of Qualifying Shares and their respective counsel in connection with any filings required to be made with the FINRA.

(b) At any time, if the Company reasonably believes that there is or may be in existence material nonpublic information or events involving the Company, the failure of which to be disclosed in the prospectus included in the registration statement could constitute a material misstatement or omission, then, upon written notice to the Holder's Representative and until the Holders receive copies of the supplemented or amended prospectus, such period not to exceed 60 days (the "**Suspension Period**"), the Company may suspend the use or effectiveness of any registration statement (and the Holders each hereby agree not to offer or sell any Qualifying Shares pursuant to such registration statement during the Suspension Period). If the Company exercises its right to delay or suspend the use or effectiveness of a registration hereunder, the applicable time period during which the registration statement is to remain effective will be extended by a period of time equal to the duration of the Suspension Period. The Company may extend the Suspension Period for an additional consecutive 60 days with the consent of the Holders, which will not be unreasonably withheld. If so directed by the Company, the Holders will (i) not offer to sell any Qualifying Shares pursuant to the registration statement during the period in which the delay or suspension is in effect after receiving notice of such delay or suspension and (ii) use commercially reasonable efforts to deliver to the Company (at the Company's expense) all copies, other than permanent file copies then in the Participating Holders' possession, of the prospectus relating to Qualifying Shares current at the time of receipt of such notice

4. Registration Expenses. All expenses incident to the filing of any Piggyback Registration and to the Company's performance of or compliance with this Agreement (all such expenses being herein called "**Registration Expenses**") will be borne or paid by the Company, including, without limitation, all registration and filing fees, fees and expenses of compliance with securities or blue sky laws, printing expenses, messenger and delivery expenses, fees and disbursements of custodians, fees and disbursements of counsel for the Company, and all independent certified public accountants, underwriters (excluding discounts and commissions), and other Persons retained by the Company, including, without limitation, the Company's internal expenses (e.g., salaries and expenses of its officers and employees performing legal or accounting duties), the expense of any annual audit or quarterly review, and the expenses and fees for listing the securities to be registered on each securities exchange on which similar securities issued by the Company are then listed or, if none are so listed, on a securities exchange. The Company will not be responsible for any discounts, commissions, transfer taxes or other similar fees incurred by the Holders in connection with the sale of the Qualifying Shares.

5. Indemnification.

(a) The Company agrees to indemnify and hold harmless, to the full extent permitted by law, each of the Participating Holders, severally and not jointly, their respective officers, directors, members, agents, and employees and each Person who controls the Holders (within the meaning of the Securities Act) against any and all losses, claims, damages, liabilities, joint or several, together with reasonable costs and expenses (including reasonable attorney's fees), to which such indemnified party may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages, or liabilities (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of, are based upon, are caused by, or result from (i) any untrue or alleged untrue statement of material fact contained (A) in any registration statement, prospectus, or preliminary prospectus or any amendment thereof or supplement thereto, or (B) in any application or other document or communication (in this Section 5 collectively called an “**application**”) executed by or on behalf of the Company or based upon written information furnished by or on behalf of the Company filed in any jurisdiction in order to qualify any securities covered by such registration statement under the “blue sky” or securities laws thereof, or (ii) any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, and the Company will reimburse the Holders and each such director, officer, member, agent and employee for any legal or any other expenses incurred by them in connection with investigating or defending any such loss, claim, liability, action, or proceeding; *except* that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability (or action or proceeding in respect thereof), or expense arises out of, is based upon, is caused by, or results from an untrue statement or alleged untrue statement, or omission or alleged omission, made in such registration statement, any such prospectus or preliminary prospectus or any amendment or supplement thereto, or in any application, in reliance upon, and in conformity with, written information prepared and furnished to the Company by a Participating Holder or other indemnified party expressly for use therein or by any Participating Holder’s failure to deliver a copy of the registration statement or prospectus or any amendments or supplements thereto after the Company has furnished the Holders with a sufficient number of copies of the same.

(b) In connection with any registration statement in which the Participating Holders are participating, each Participating Holder will furnish to the Company in writing such information and affidavits as the Company reasonably requests for use in connection with any such registration statement or prospectus and, to the full extent permitted by law, will, severally and not jointly, indemnify and hold harmless the Company, and its directors, officers, members, agents, and employees and each other Person who controls the Company (within the meaning of the Securities Act) against any losses, claims, damages, liabilities, together with reasonable costs and expenses (including reasonable attorneys’ fees), to which such indemnified party may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages, or liabilities (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of, are based upon, are caused by, or result from (i) any untrue or alleged untrue statement of material fact contained in the registration statement, prospectus or preliminary prospectus or any amendment thereof or supplement thereto or in any application, or (ii) any omission or alleged omission of a material fact required to be stated therein or necessary to make the statements therein not misleading, but only to the extent that such untrue statement or omission is made in such registration statement, any such prospectus or preliminary prospectus or any amendment or supplement thereto, or in any application, in reliance upon and in conformity with written information prepared and furnished to the Company by such Holder expressly for use therein. Any Person entitled to indemnification hereunder will (i) give prompt written notice to the indemnifying party of any claim with respect to which it seeks indemnification (except that the failure to give prompt notice will not impair any Person's right to indemnification hereunder to the extent such failure has not prejudiced the indemnifying party), and (ii) unless in such indemnified party's reasonable judgment a conflict of interest between such indemnified and indemnifying parties may exist with respect to such claim, permit such indemnifying party to assume the defense of such claim with counsel reasonably satisfactory to the indemnified party. If such defense is assumed, the indemnifying party will not be subject to any liability for any settlement made by the indemnified party without its consent (but such consent will not be unreasonably withheld, conditioned or delayed). An indemnifying party who is not entitled to, or elects not to, assume the defense of a claim will not be obligated to pay the fees and expenses of more than one counsel for all parties indemnified by such indemnifying party with respect to such claim, unless in the reasonable judgment of any indemnified party a conflict of interest may exist between such indemnified party and any other of such indemnified parties with respect to such claim.

(c) The indemnifying party will not, except with the approval of each indemnified party, consent to entry of any judgment or enter into any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to each indemnified party of a release from all liability in respect to such claim or litigation without any payment or consideration provided by such indemnified party.

(d) If the indemnification provided for in this **Section 5** is unavailable to, or is insufficient to hold harmless, an indemnified party under the provisions above in respect to any losses, claims, damages, or liabilities referred to therein, then each indemnifying party will contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages, or liabilities in such proportion as is appropriate to reflect the relative fault of the Company on the one hand and of the Holder and any other sellers participating in the registration statement on the other hand in connection with the registration statement on the other in connection with the statement or omissions which resulted in such losses, claims, damages, or liabilities, as well as any other relevant equitable considerations. The relative fault of the Company on the one hand and of the Holder and any other sellers participating in the registration statement on the other hand will be determined by reference to, among other things, whether the untrue or alleged omission to state a material fact relates to information supplied by or relating to the Company or whether it relates to information supplied by or relating to the Holder or other sellers participating in the registration statement and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission.

(e) The Company and the Participating Holders agree that it would not be just and equitable if contribution pursuant to this **Section 5** were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the losses, claims, damages, and liabilities referred to in the immediately preceding paragraph will be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any Person who was not guilty of such fraudulent misrepresentation.

(f) The indemnification and contribution by any such party provided for under this Agreement will be in addition to any other rights to indemnification or contribution which any indemnified party may have pursuant to law or contract and will remain in full force and effect regardless of any investigation made or omitted by or on behalf of the indemnified party or any officer, director, employee or controlling Person of such indemnified party and will survive the transfer of securities.

6. Participation in Underwritten Registrations.

(a) No Person may participate in any registration hereunder which is underwritten unless such Person (i) agrees to sell such Person's securities on the basis provided in any underwriting arrangements approved by the Person or Persons entitled hereunder to approve such arrangements (including, without limitation, pursuant to the terms of any over-allotment or "green shoe" option requested by the managing underwriter(s); *except* that a Participating Holder will not be required to sell more than the number of Qualifying Shares that the Participating Holder has requested the Company to include in any registration), and (ii) completes and executes all questionnaires, powers of attorney, indemnities, underwriting agreements, and other documents reasonably required under the terms of such underwriting arrangements.

(b) Each Person that is participating in any registration hereunder agrees that, upon receipt of any notice from the Company of the initiation of a Suspension Period, such Person will forthwith discontinue the disposition of its Qualifying Shares pursuant to the registration statement until such Person's receipt of the copies of a supplemented or amended prospectus.

7. Definitions.

"Board" means the board of directors of the Company.

"Exchange Act" means the Securities Exchange Act of 1934, as amended, or any successor federal statute, and the rules and regulations promulgated thereunder, all as amended, modified or supplemented from time to time.

"Holder" means Zvi Yaniv and/or his heirs or personal representatives.

"Holders' Representative" means the person designated from time to time by the Participating Holders or, as to a particular registration statement, the person designated by those Participating Holders. The Company will only recognize one Holders' Representative at any time. Until the Company is notified otherwise, the Holders Representative is Yaniv.

"Participating Holder" means any Holder who has elected to have Qualified Shares included in any registration under this Agreement.

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

“Qualifying Shares” means any of the Holder Stock with respect to which all forfeiture restrictions have expired in accordance with the applicable Restricted Stock Agreement.

“Securities Act” means the Securities Act of 1933, as amended, or any successor federal statute, and the rules and regulations promulgated thereunder, all as amended, modified or supplemented from time to time.

“Suspension Period” has the meaning set forth in **Section 3(b)**.

8. Miscellaneous.

(a) Amendment and Waiver. No modification, amendment, or waiver of any provision of this Agreement will be effective unless such modification, amendment, or waiver is approved in writing by the parties. The failure of any party to enforce any of the provisions of this Agreement will in no way be construed as a waiver of such provisions and will not affect the right of such party thereafter to enforce each and every provision of this Agreement in accordance with its terms.

(b) Severability. Whenever possible, each provision of this Agreement will be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Agreement is held to be invalid, illegal, or unenforceable in any respect under any applicable law or rule in any jurisdiction, such invalidity, illegality, or unenforceability will not affect any other provision or any other jurisdiction, but this Agreement will be reformed, construed, and enforced in such jurisdiction as if such invalid, illegal, or unenforceable provision had never been contained herein.

(c) Entire Agreement. Except as otherwise expressly set forth herein, this Agreement is the complete agreement and understanding among the parties related to the subject matter hereof.

(d) Successors and Assigns. Neither party may assign this Agreement without the consent of the other party. Subject to the foregoing, all of the terms and provisions of this Agreement will inure to the benefit of and be binding upon the parties hereto and their respective executors, heirs, personal representatives, successors and assigns.

(e) Counterparts. This Agreement may be executed in any number of counterparts and delivered via facsimile or attachment to electronic mail, each of which when executed and delivered will be deemed to be an original and all of which counterparts taken together will constitute but one and the same instrument.

(f) Remedies. Any Person having rights under any provision of this Agreement will be entitled to enforce their rights under this Agreement specifically to recover damages by reason of any breach of any provision of this Agreement and to exercise all other rights existing in their favor; except that the parties hereto stipulate that the remedies at law of any party hereto in the event of any default or threatened default by any other party hereto in the performance of or compliance with the terms hereof are not and will not be adequate and that, to the fullest extent permitted by law, such terms may be specifically enforced (without posting a bond or other security) by a decree for the specific performance thereof, whether by an injunction against violation thereof or otherwise.

(g) Notices. Any notice, request, demand, waiver, consent, approval or other communication which is required or permitted hereunder will be in writing and will be deemed given (i) on the date established by the sender as having been delivered personally, (ii) on the date delivered by a private courier as established by the sender by evidence obtained from the courier, or (iii) on the seventh day after the date mailed return receipt requested, postage prepaid with a confirming e-mail or phone call made when the notice is sent. Such communications, to be valid, must be addressed as follows:

If to the Holders, to:

If to the Company, to:

PEN, Inc.
9 Diamond Drive
Key West, FL 33040
Attn: Jeanne Rickert, General Counsel

With a copy to:

Laura Anthony, Esq.
Legal & Compliance LLC
330 Clematis Street, Suite 217
West Palm Beach, FL 33401

or to such other address or to the attention of such person or persons as the recipient party has specified by prior written notice to the sending party (or in the case of counsel, to such other readily ascertainable business address as such counsel may hereafter maintain). If more than one method for sending notice as set forth above is used, the earliest notice date established as set forth above will control.

(h) Governing Law. This Agreement will be governed by and interpreted and enforced in accordance with the Laws of the State of New York, without giving effect to any choice of Law or conflict of Laws rules or provisions that would cause the application of the Laws of any jurisdiction other than the State of New York.

(i) Consent to Jurisdiction. Each party irrevocably submits to the jurisdiction of (i) the State of New York, and (ii) the United States District Court for the Eastern District of New York, for the purposes of any action arising out of this Agreement or any transaction contemplated hereby. Each party agrees to commence any such action either in the United States District Court for the Eastern District of New York or, if such action may not be brought in such court for jurisdictional reasons, in the state courts of the State of New York. Each party further agrees that service of any process, summons, notice or document by U.S. registered mail to such party's respective address set forth above will be effective service of process for any action in the State of New York with respect to any matters to which it has submitted to jurisdiction in this **Section 8(i)**. Each party irrevocably and unconditionally waives any objection to the laying of venue of any action arising out of this Agreement or the transactions contemplated hereby in New York, New York, and hereby further irrevocably and unconditionally waives and agrees not to plead or claim in any such court that any such action brought in any such court has been brought in an inconvenient forum. **EACH PARTY HEREBY IRREVOCABLY WAIVES ALL RIGHT TO TRIAL BY JURY IN ANY ACTION (WHETHER BASED ON CONTRACT, TORT OR OTHERWISE) ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE ACTIONS OF SUCH PARTY IN THE NEGOTIATION, ADMINISTRATION, PERFORMANCE AND ENFORCEMENT HEREOF AND THEREOF.**

(j) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties hereto to express their mutual intent, and no rule of strict construction will be applied against any party.

(k) Business Days. If any time period for giving notice or taking action hereunder expires on a day which is a Saturday, Sunday or legal holiday in the state in which the Company's chief executive office is located, the time period will automatically be extended to the business day immediately following such Saturday, Sunday or legal holiday.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement on the day and year first above written.

PEN Inc.

By:

Scott E Rickert, Chief
Executive Officer

Zvi Yaniv

FINAL PRESS RELEASE

**Applied Nanotech Holdings, Inc. (OTCQB: APNT) and Nanofilm, Ltd.
Sign Merger Agreement**

Austin, Texas and Valley View, Ohio – March 11, 2014 - Applied Nanotech Holdings, Inc. (OTCQB:APNT) (Applied Nanotech), a global leader in nanotechnology research and development, and NanoHolding Inc., the parent company of Nanofilm, Ltd. (Nanofilm), a private company with a leading market position for specialty optical coatings, cleaners and nano-composite products, today jointly announced that their respective Boards of Directors have approved an agreement and plan of merger and exchange. Under terms of the agreement, a new company named PEN Inc (PEN) will be created. Upon completion of the merger, current Applied Nanotech stockholders and holders of certain debt convertible into Applied Nanotech's common stock are expected to own approximately 38% of PEN's outstanding common stock, and owners of Nanofilm are expected to receive approximately 62% of PEN's outstanding common stock. Scott Rickert, Ph.D., the chief executive officer of Nanofilm, will become the chairman and chief executive officer of PEN.

Based on 2013 pro forma historical financial statements of Applied Nanotech and Nanofilm, assuming the merger had occurred at the beginning of 2013, PEN would have had 2013 revenues exceeding \$13 million. Projected 2014 revenues of PEN are anticipated to be greater than 2013 pro forma revenues, generating positive operating income, not including transaction expenses.

This transaction will combine the technology portfolios of Applied Nanotech and Nanofilm, to be catalyzed by Nanofilm's experience in consumer and industrial product commercialization for worldwide markets, thus enhancing PEN's ability to gain greater value from its intellectual property. PEN was created to build a platform for a higher rate of expected revenue growth based on increased capabilities in intellectual property, key personnel, development facilities, operating facilities and customer relations to aggressively pursue product commercialization. PEN anticipates future acquisitions of companies that have strong intellectual property but are in need of commercialization expertise, as well as companies whose products can be advanced by PEN's technologies.

"PEN offers an exciting opportunity for Applied Nanotech and Nanofilm shareholders to share in the growth of the combined company," said Dr. Rickert. "Customers and consumers will be served by new products that incorporate nanotechnology, the science of small, to accomplish big breakthroughs. The name PEN is derived from 'products enabled by nanotechnology.' I am ready to show how a disciplined business approach can transform scientific innovation and bring next-generation products to the worldwide marketplace."

Scott Rickert, an early nanotechnology entrepreneur, founded Nanofilm in 1984. Nanofilm distributes a variety of products in dozens of countries across the globe.

To harness the capabilities of the combined research and development, operations and marketing departments, PEN plans to create a companywide Innovation Committee. This committee will be chaired by Dr. Rickert. Zvi Yaniv, Ph.D., the globally respected nanotechnology pioneer, will also serve on the committee. Each technology subsidiary will be represented on the committee, charged with devising new product ideas to capitalize on technical innovation.

Dr. Robert Ronstadt, Applied Nanotech's Chairman commented, "For our shareholders, this merger is a compelling strategic and financial transaction to realize the market potential of Applied Nanotech's technology. Combining the outstanding research and development capabilities of the two organizations and Nanofilm's experience and strength in manufacturing, marketing and sales expands PEN's capabilities for growth."

The merger agreement is subject to various conditions, including conversion of certain debts of APNT into equity, and customary conditions, including shareholder approval at both companies. The merger is expected to close by the end of the second quarter of 2014.

About APNT (OTCQB: APNT)

Applied Nanotech Holdings, Inc. (APNT) is an Austin, Texas-based global leader in nanotechnology research and development and has ongoing research programs and license agreements with product innovators around the world. For information about Applied Nanotech Holdings, Inc., please visit www.appliednanotech.net.

About Nanofilm, Ltd.

Nanofilm, Ltd. is a Valley View, Ohio private company that develops nano-layer coatings, nano-based cleaners, and nano-composite products. Nanofilm's primary commercial products center around its unique eyecare glass cleaning and de-fogging products; other products include precision mold release treatments, stay-clean surface treatments for ceramic insulators, and scuff-resistant treatments for commercial dinnerware. For information about Nanofilm, please visit www.nanofilmtechnology.com.

DISCLOSURE NOTICE: The information contained in this release is as of March 11, 2014. APNT and Nanofilm assume no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

This release contains forward-looking information that involves substantial risks and uncertainties about the proposed merger of APNT and Nanofilm and their expectations regarding completion of the merger and their ability to expand, develop and enhance new products. Such risks and uncertainties include, among other things, the uncertainty regarding the completion of bridge financing, conversion of certain APNT debt into equity, approval by the respective shareholders of APNT and NanoHolding Inc., and market acceptance of products using their technologies.

A further description of risks and uncertainties regarding APNT's business can be found in its Annual Report on Form 10-K for the fiscal year ended December 31, 2013 and in its reports on Form 10-Q and Form 8-K.

ADDITIONAL INFORMATION AND WHERE TO FIND IT

In connection with the merger of APNT and Nanofilm discussed in this press release, APNT will be filing a proxy statement and relevant documents concerning the transaction with the Securities and Exchange Commission ("SEC"). SECURITY HOLDERS OF APNT ARE URGED TO READ THE PROXY STATEMENT AND ANY OTHER RELEVANT DOCUMENTS FILED WITH THE SEC WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION. Investors and security holders can obtain free copies of the proxy statement and other documents when they become available by contacting our [Investor Relations Department], 3006 Longhorn Boulevard, Suite 107, Austin, Texas 78758 (Telephone: (512) 339-5020). In addition, documents we filed with the SEC are available free of charge at the SEC's web site at <http://www.sec.gov> and at our website www.appliednanotech.net under "Investor Information - SEC Filings."

APNT and its directors and executive officers and other persons may be deemed to be participants in the solicitation of proxies in respect of the proposed merger of APNT and Nanofilm. Information regarding our directors and executive officers is available in our Annual Report on Form 10-K for the year ended December 31, 2013, which was filed with the SEC on February 25, 2014, and the proxy statement and other relevant materials to be filed with the SEC in connection with these matters. Other information regarding the participants in the proxy solicitation and a description of their direct and indirect interests, by security holdings or otherwise, will be contained in the proxy statement and other relevant materials to be filed with the SEC when they become available.

Contact Information:

Lynn Lilly
Director of Communication
Nanofilm, Ltd.
llilly@nanofilmtechnology.com
(216) 447 – 1199 ext. 119