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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549**

**FORM 10-Q**

Quarterly report under Section 13 or 15(d) of the Securities Exchange Act of 1934

For the quarterly period ended June 30, 2014

Transition report pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

**COMMISSION FILE NO. 1-11602**

**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 Blvd., Suite 107**

**Austin, Texas**

(Address of principal executive offices)

**78758**

(Zip Code)

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**(512) 339-5020**

(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes  No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definition of "accelerated filer", "large accelerated filer", and "smaller reporting company" in rule 12b-2 of the Act.

Large Accelerated Filer  Accelerated Filer   
Non-accelerated Filer  Smaller Reporting Company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes  No

As of July 31, 2014, the registrant had 158,319,151 shares of common stock, par value \$.001 per share, issued and outstanding.

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PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES  
CONSOLIDATED BALANCE SHEETS

	(Unaudited) June 30, 2014	December 31, 2013
<b>ASSETS</b>		
Current assets:		
Cash and cash equivalents	\$ 118,374	\$ 119,551
Accounts receivable, trade – net of allowance for doubtful accounts	225,241	462,964
Prepaid expenses and other current assets	<u>52,522</u>	<u>85,499</u>
Total current assets	396,137	668,014
Property and equipment, net	126,901	157,772
Other assets	17,618	27,114
Total assets	<u>\$ 540,656</u>	<u>\$ 852,900</u>
<b>LIABILITIES AND STOCKHOLDERS' DEFICIT</b>		
Current liabilities:		
Accounts payable	\$ 787,335	\$ 642,486
Convertible notes payable	1,870,117	1,859,912
Obligations under capital lease	–	10,427
Accrued liabilities	1,301,187	1,580,194
Deposits and deferred revenue	<u>217,351</u>	<u>143,323</u>
Total current liabilities	<u>4,175,990</u>	<u>4,236,342</u>
Total liabilities	<u>4,175,990</u>	<u>4,236,342</u>
Commitments and contingencies	<u>–</u>	<u>–</u>
Stockholders' deficit:		
Preferred stock, \$1.00 par value, 2,000,000 shares authorized; No shares issued and outstanding	–	–
Common stock, \$.001 par value, 160,000,000 shares authorized, 157,553,526 and 147,825,202 shares issued and outstanding at June 30, 2014 and December 31, 2013, respectively	157,553	147,825
Additional paid-in capital	119,231,286	117,595,024
Accumulated deficit	<u>(123,024,173)</u>	<u>(121,126,291)</u>
Total stockholders' deficit	<u>(3,635,334)</u>	<u>(3,383,442)</u>
Total liabilities and stockholders' deficit	<u>\$ 540,656</u>	<u>\$ 852,900</u>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF OPERATIONS**  
**(UNAUDITED)**

	For the Three Months Ended June 30,		For the Six Months Ended June 30,	
	2014	2013	2014	2013
<b>Revenues</b>				
Government contracts	\$ 446,479	\$ 436,191	\$ 1,165,777	\$ 915,017
Contract research	101,015	451,879	240,315	763,930
License fees and royalties	–	82,282	–	138,355
Product sales	11,702	94,920	35,336	167,621
Other	1,500	1,500	1,700	30,559
Total revenues	<u>560,696</u>	<u>1,066,772</u>	<u>1,443,128</u>	<u>2,015,482</u>
Research and development	507,378	911,476	1,133,733	1,779,148
Selling, general and administrative expenses	<u>283,185</u>	<u>635,699</u>	<u>884,873</u>	<u>1,383,480</u>
Operating costs and expenses	790,563	1,547,175	2,018,606	3,162,628
Gain on sale of property and equipment	<u>549</u>	<u>–</u>	<u>3,104</u>	<u>–</u>
Loss from operations	(229,318)	(480,403)	(572,374)	(1,147,146)
<b>Other income (expense), net</b>				
Interest expense	(1,227,132)	(163,564)	(1,325,586)	(871,766)
Interest income	<u>48</u>	<u>49</u>	<u>78</u>	<u>54</u>
Loss from continuing operations before taxes	(1,456,402)	(643,918)	(1,897,882)	(2,018,858)
Provision for taxes	<u>–</u>	<u>–</u>	<u>–</u>	<u>–</u>
Net loss	<u>\$ (1,456,402)</u>	<u>\$ (643,918)</u>	<u>\$ (1,897,882)</u>	<u>\$ (2,018,858)</u>
<b>Earnings (loss) per share</b>				
Basic and Diluted	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.02)</u>
<b>Weighted average shares outstanding</b>				
Basic and Diluted	<u>157,163,416</u>	<u>127,993,613</u>	<u>155,801,782</u>	<u>126,450,138</u>

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**CONSOLIDATED STATEMENTS OF CASH FLOWS**  
**(UNAUDITED)**

	For the Six Months Ended June 30,	
	2014	2013
Cash flows from operating activities:		
Net loss	\$ (1,897,882)	\$ (2,018,858)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization expense	30,871	53,670
Amortization of discount on debt	1,252,756	756,110
Stock based compensation expense	197,376	54,454
Gain on disposal of property and equipment	(3,104)	-
Changes in assets and liabilities:		
Accounts receivable, trade	237,723	(102,106)
Prepaid expenses and other assets	42,473	611,744
Accounts payable and accrued liabilities	(22,595)	399,691
Deferred revenue	74,028	(52,131)
Total adjustments	1,809,528	1,721,432
Net cash used in operating activities	(88,354)	(297,426)
Cash flows from investing activities:		
Proceeds from equipment sales	3,104	-
Net cash used in investing activities	3,104	-
Cash flows from financing activities:		
Repayment of capital leases and notes payable	(71,677)	(100,263)
Proceeds from long-term debt	155,750	394,250
Net cash provided by financing activities	84,073	293,987
Net (decrease) in cash and cash equivalents	(1,177)	(3,439)
Cash and cash equivalents, beginning of period	119,551	331,579
Cash and cash equivalents, end of period	\$ 118,374	\$ 328,140

See notes to consolidated financial statements.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

**1. Basis of Presentation**

The consolidated financial statements for the three and six month periods ended June 30, 2014 and 2013 have been prepared by us without audit pursuant to the rules and regulations of the Securities and Exchange Commission. In the opinion of management, all adjustments necessary to present fairly our financial position, results of operations, and cash flows as of June 30, 2014 and 2013, and for the periods then ended, have been made. Those adjustments consist of normal and recurring adjustments. The consolidated balance sheet as of December 31, 2013, has been derived from the audited consolidated balance sheet as of that date.

Certain information and note disclosures normally included in our annual financial statements prepared in accordance with generally accepted accounting principles have been condensed or omitted. These consolidated financial statements should be read in conjunction with a reading of the financial statements and notes thereto included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2013, as filed with the U.S. Securities and Exchange Commission.

The results of operations for the three and six month periods ended June 30, 2014, are not necessarily indicative of the results to be expected for the full year. Certain reclassifications have been made in the prior period's consolidated financial statements to conform to the current period's presentation.

The Company has a history of net losses and negative cash flow from operations. We have had losses in each of the last three years, but we have a plan to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles, which contemplate continuation of the Company as a going concern, and do not include any adjustments that may be required if it were unable to continue as a going concern. Management and the Board believe that the actions taken to date in 2014 and currently being taken will allow the Company to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6, and to achieve profitability in future years. These actions include both significant expense cuts and the business combination with NanoHolding, Inc. as discussed in Note 6.

**2. Supplemental Cash Flow Information**

Cash paid for interest for the six months ended June 30, 2014 and 2013, was \$1,512 and \$10,579, respectively. During the six months ended June 30, 2014 and 2013, the Company had non-cash transactions related to share based payments described in greater detail in Note 5, non-cash transactions related to the conversion of accounts payable into common stock described in greater detail in Note 4, and non-cash transactions related to the conversion of notes payable and related accrued interest into common stock that are described in greater detail in Notes 3 and 4.

**3. Notes Payable and Long-Term Debt**

As described in detail in our Form 10-K for the year ended December 31, 2013, we issued convertible notes from 2009 through 2013. Additional convertible notes with a face amount of \$236,250 were issued in the six months ended June 30, 2014. One of these notes in the amount of \$75,000 was issued to the Company's former chief financial officer in a noncash transaction in connection with an overall release and settlement agreement related to the termination of the CFO's employment. The note is due the earlier of December 31, 2014, or upon completion of the Company's proposed business combination (as discussed further in Note 6) and is payable in cash or with 1.5 million shares of stock in the new entity, at the option of the Company. In addition, \$50,000 of these notes were issued to Directors of the Company and \$10,000 to individuals that are proposed Directors of the Company if the business combination is completed. These notes are due July 15, 2015, bear interest at a rate of 8%, and are convertible into common stock at a discount of 25% from the market price of the common stock at the time of conversion. If the proposed business combination occurs, the notes will be automatically convertible into common stock of the merged entity under the same terms.

As of June 30, 2014, there are notes with a total face amount of \$1,909,355 outstanding. These notes are due at dates throughout 2014 and through July 2015. These notes bear interest at rates ranging from less than 1% to 8%, and \$21,297 of the notes outstanding included a 10% original issuance discount. The notes are convertible at fixed rates ranging from \$0.05 to \$0.10 per share and \$121,297 of the face amount of the notes are convertible at floating rates based on discounts of 25% - 30% to the market price of our common stock at the date of conversion.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

3. Notes Payable and Long-Term Debt (continued)

At the time of issuance, the value of the beneficial conversion feature of these notes is calculated, recorded as a discount to the note, and amortized to expense over the term of the note. If the notes are converted before maturity, any unamortized expense at the time of conversion is expensed at the time of conversion. As of June 30, 2014, there is \$39,238 of unamortized discount remaining to be amortized in future periods during 2014 and 2015. During the period ended June 30, 2014, the Company amended notes payable with a total face amount of \$1,713,058 that were past due at the time to extend the due date to August 15, 2014 and provide for automatic conversion if the business combination is completed. To induce the note holders to agree to automatic conversion, the conversion price was lowered in most instances. The conversion price for \$760,000 of these notes was lowered to \$0.05 per share, to \$0.10 per share for \$915,058 of these notes, and the conversion price remained unchanged at \$0.08 per share for the remaining \$38,000 of notes.

A total of \$1,252,756 and \$756,110 of discount was amortized to interest expense during the six month periods ending June 30, 2014 and 2013, respectively. Included in these amounts are charges related to lowering the conversion price of \$1,136,584 and \$408,132 in the six months ended June 30, 2014 and June 30, 2013, respectively.

4. Stockholders' Equity

During the six months ended June 30, 2014, we issued 8,528,324 shares of common stock as the result of the conversion of notes payable and related accrued interest in the amount of \$182,331. During the six months ended June 30, 2013, we issued 9,925,461 shares of common stock as the result of the conversion of notes payable and related accrued interest in the amount of \$918,079. In the first quarter of 2013, we also issued 470,085 shares in connection with a cashless exercise of 1,692,307 warrants issued in January 2013 in connection with the issuance of convertible notes.

During the six months ended June 30, 2014 and 2013, respectively, we issued 1,200,000 and 600,000 shares, respectively, of common stock in exchange for the payment of \$30,000 and \$60,000, respectively, of trade payables in exempt offerings under Regulation D of the Securities Act of 1933. We also issued 12,948 shares of common stock in connection with restricted stock payments to employees during the period ended June 30, 2013.

5. Share-Based Payments

We use the fair value method to account for stock based compensation. We recorded \$197,376 and \$54,454 in compensation expense in the periods ended June 30, 2014 and 2013, respectively, related to options and restricted stock issued under our stock-based incentive compensation plans. This includes expense related to both options issued and committed, as well as unissued restricted stock during the period ended, June 30, 2013, but only unissued restricted stock in the current period. The fair value of these options was calculated using the Black-Scholes option pricing model. Information related to the assumptions used in this model is set forth in the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 2013. The value of restricted stock grants is based upon the market price of the Company's stock on the date of the grant.

**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

6. Contingencies

*Proposed Business Combination*

On March 10, 2014, we entered into an agreement for a proposed business combination between the Company and NanoHolding, Inc., a privately held company with a leading market position for specialty optical coatings, cleaners, and nano-composite products. The specific mechanics of the proposed transaction are included in an 8-K dated March 11, 2014, but the business combination, if approved by stockholders, will result in a combined entity with the Company and NanoHolding, Inc., operating under the name PEN, Inc. A shareholder meeting is scheduled for August 22, 2014 to vote on the transaction. A definitive proxy dated July 3, 2014 is on file with the SEC and was mailed to shareholders beginning July 7, 2014.

If the Company's stockholders approve the proposed business combination and the business combination is completed, the Company will be obligated to issue 7,074,000 shares of restricted common stock to all outside Directors of the Company, except for Director David Li, as compensation for management functions assumed by those Directors in 2013 and 2014 that they believe went beyond their role as Directors, as well as the role that they played in facilitating the business combination. No liability for the issuance of these shares is recorded in the financial statements as of June 30, 2014, as the Company has no obligation to issue these shares unless the business combination is completed.

In addition, all of the outside Directors have been deferring a portion of their normal monthly compensation. As of June 30, 2014, the financial statements reflect a liability of approximately \$201,000 for these deferred fees. If the business combination is completed, the Directors have agreed to accept payment of these fees in the stock of PEN, Inc. based on a price of \$0.05 per share. If the stock of PEN, Inc. is trading above \$0.05 per share at the time of payment, that will result in additional expense beyond that currently reflected in the financial statements, based on the difference between the price at the time and \$0.05 per share.

If the stockholders approve the proposed business combination and the business combination is completed, the Company will be obligated to issue up to 6.8 million shares of restricted common stock to the Company's Chief Operating Officer ("COO") as part of an amended compensation package. These restricted stock grants will vest based on achievement of certain price targets for the stock of the new entity. No liability is recorded in the financial statements as of June 30, 2014 for this potential grant, since the Company has no obligation to issue this grant unless the business combination is completed. The Company does have a liability of \$215,427 recorded for unpaid compensation due to the COO. The previously described restricted stock grant will supersede and replace any amounts due to the COO, including accrued compensation, or any severance due to the COO upon termination of employment.

*Litigation*

The Company is a defendant in minor lawsuits described in greater detail in its 2013 Annual Report on Form 10-K. The Company expects any potential eventual payment to have no material effect on the financial statements.

*Authorized shares*

As discussed in the Annual Report on Form 10-K for the fiscal year ended December 31, 2013, the Company has potential commitments to issue shares in excess of its current authorized share limit. It has included a proposal to increase its authorized shares to 502 million at the shareholder meeting scheduled for August 22, 2014, however; if its share price increases significantly prior to an increase in the authorized limit, the Company may be liable to convertible note holders or optionees for damages equal to their lost profits if it is unable to deliver shares in accordance with its existing agreements. As discussed in note 3 above, in April and May 2014, the Company amended the majority of its notes payable to lower the conversion price. These lowered conversion prices increase the amount of shares the Company is committed to release, as the conversion price was lowered to below the existing market price of the common stock at the time of amendment on a significant portion of the notes.



**APPLIED NANOTECH HOLDINGS, INC. AND SUBSIDIARIES**  
**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**  
**(UNAUDITED)**

7. Subsequent Events

During the Period from July 1, 2014 through July 31, 2014, the Company issued 765,625 shares of common stock in connection with the conversion of notes payable with a face amount of \$21,297. During the same period, the Company also received commitments for \$10,000 in additional convertible notes payable under the terms described in Note 3.

## **ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS**

The following is management's discussion and analysis of certain significant factors that have affected our financial position and operating results during the periods included in the accompanying consolidated financial statements.

### **FORWARD-LOOKING STATEMENTS**

This Form 10-Q contains certain forward-looking statements that we believe are within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934, which are intended to be covered by the safe harbors created by such acts. For this purpose, any statements that are not statements of historical fact may be deemed to be forward-looking statements, including the statements under "Management's Discussion and Analysis of Financial Condition and Results of Operations" regarding our strategy, future operations, future expectations or future estimates, financial position and objectives of management. Those statements in this Form 10-Q containing the words "believes," "anticipates," "plans," "expects" and similar expressions constitute forward-looking statements, although not all forward-looking statements contain such identifying words. These forward-looking statements are based on our current expectations and are subject to a number of risks, uncertainties and assumptions relating to our operations, results of operations, competitive factors, shifts in market demand and other risks and uncertainties.

Although we believe that the assumptions underlying our forward-looking statements are reasonable, any of the assumptions could be inaccurate and actual results may differ from those indicated by the forward-looking statements included in this Form 10-Q. In light of the significant uncertainties inherent in the forward-looking statements included in this Form 10-Q, you should not consider the inclusion of such information as a representation by us or anyone else that we will achieve such results. Moreover, we assume no obligation to update these forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking statements.

### **Six months ended June 30, 2014 and 2013**

### **OVERVIEW**

We are a nanotechnology company, primarily engaged in the development of technologies, based principally on our intellectual property. Historically, we have generated revenues by performing research services, licensing our technology, and selling products based on our technology. During all periods presented, substantially all of our revenues were earned as a result of reimbursed research expenditures. As more fully discussed in our Annual Report on Form 10-K for the year ended December 31, 2013, we expect to incur additional research and development expenses in 2014 to continue development of our technology. We are currently focused on obtaining sufficient revenue to cover our ongoing expenditures and achieving positive cash flow from operations. We are focused almost exclusively on our research contracts and have abandoned all commercialization efforts related to our technology. As such, there will be no significant product sales in the foreseeable future.

### **RECENT DEVELOPMENTS**

On March 10, 2014, we entered into an agreement for a proposed business combination between the Company and NanoHolding, Inc., a privately held company with a leading market position for specialty optical coatings, cleaners, and nano-composite products. The specific mechanics of the proposed transaction are included in a current report on Form 8-K dated as of March 10, 2014, the Company's proxy statement dated July 3, 2014, and the merger transaction is described in greater detail below, but the business combination, if approved by stockholders, will result in a combined entity with the Company and NanoHolding, Inc., operating under the name PEN, Inc. The transaction is subject, among other things, to approval by the Company's stockholders.

The combination of APNT and Nanofilm opens the door for a new era for the company, driven by a focus on commercialization and informed by Nanofilm's 25-year track record in launching profitable nanotechnology-enabled products into the global market. Dr. Scott Rickert, founder and CEO of Nanofilm and proposed CEO of PEN Inc, has a demonstrated ability to marry breakthrough nanotechnology with marketplace needs to create advanced products that command higher prices and higher margins than traditional products. Rickert is poised to bring to PEN the business model and capabilities he has built at Nanofilm in R&D, operations, management, marketing, manufacturing and sales. The board sees this as a unique growth strategy to maximize the value of existing intellectual property and drive a more market-focused approach to the business in the future. In consultation with the board of APNT, Dr. Rickert and his team have already provided operations, R&D and management guidance that's been a factor in the improved financial condition of the company. The combination provides a new path to potential positive growth.

## ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (cont.)

### *Merger Agreement*

The Company, together with its wholly owned direct subsidiaries PEN INC, a Delaware corporation ("PEN") and NanoMerger Sub Inc., ("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. 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, holders of certain debt convertible into the Company's common stock, and others with rights to acquire 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 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 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. This effectively gives the Rickert family 99% voting control. 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 approximately 5,515,000 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, and payment of accrued board fees for the Company's present and former directors.

## ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (cont.)

To induce Nano to enter into the Merger Agreement the Company has also entered into a Voting and Conversion Agreement with each of the Directors of the Company and Sichuan Anxian Yinhee Chemical and Construction Company. 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.

The Company has entered into Convertible Debt Agreement Amendments with all holders of the Company's convertible debt that was convertible at a fixed conversion price. The amendments extended the due date to August 15, 2014, and require these debt holders to convert the Company debt they hold at the time of the Merger into shares of PEN's Class A Common Stock at rates ranging from \$0.05 to \$0.10 per share. 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.

The boards 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, and (ii) 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 Merger Agreement also contains certain termination rights for both the Company and Nano, including if the Merger is not completed on or before September 14, 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 to the Current Report on Form 8-K dated as of March 10, 2014 and as an Exhibit to the Company's Proxy statement dated July 3, 2014.

### OUTLOOK

We expect our present cash balances, when combined with known and expected revenue sources, and the proposed business combination discussed in the "Recent Developments" section above, to enable us to operate through the end of 2014. However, our cash on hand and expected cash receipts are only adequate to allow us to operate through the end of August 2014. We expect to complete the proposed business combination during that period. If the proposed business combination is not approved by stockholders, or is not completed for some other reason, we will need financing to pay accrued liabilities, including transaction expenses. Our ability to raise capital will also be dependent, in part, on whether shareholders approve an increase in the authorized number of shares to permit us to raise equity, or convertible debt financing. We will be unable to meet our obligations to our debt holders, and we will be required to reach agreement with our existing convertible debt holders to further extend their notes, to convert those notes to equity, or raise additional funding to pay the notes in order to continue operations.

We have a plan to achieve positive cash flow from operations for 2014, prior to interest expense and expenses related to the business combination. Our plan anticipated a significant loss for the first quarter of 2014 and it anticipates a loss for the full year. A critical component of our plan is to maintain our research revenue at its current level, or above, and this will require the receipt of additional contracts. If we do not receive the expected revenue sources as quickly as anticipated by the plan, we likely will be required to cut expenses further. Longer term, if the business combination does not occur, we will need financing to continue as a going concern. If we are unable to raise additional funding on commercially acceptable terms, we may be forced to drastically curtail activities or obtain funding on terms that are more unfavorable for the Company.

At the present time, there can be no assurance that expected revenue sources will all occur as planned. It is not possible for us to achieve profitability without license fees or royalties at our present level of activity. In order to achieve profitability solely based on research revenues, our research revenue would have to more than double from our expected level for 2014, and the majority of the revenue would have to come from non-governmental sources. The mix of revenues received could also cause the revenues required to reach break-even to increase. If revenue producing projects require unanticipated expenses, or heavier than anticipated use of outside services and materials, we may be unable to achieve profitability at the expected level of revenues. We believe that we have the ability to continue to obtain funding, if necessary, to enable us to continue operations until we reach cash flow breakeven.

## **ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (cont.)**

Our plan is based on current development plans, current operating plans, the current regulatory environment, historical experience in the development of electronic products and general economic conditions. Changes could occur which would cause certain assumptions on which this plan is based to be no longer valid. If adequate funds are not available from operations, or other sources of financing, we may have to eliminate, or reduce substantially, expenditures for research and development, testing and production of its products, or obtain funds through arrangements with other entities that may require us to relinquish rights to certain of our technologies or products. Such results could materially and adversely affect us and impair our ability to operate effectively.

### **RECENT ACCOUNTING PRONOUNCEMENTS**

There are no recent accounting pronouncements that we have not implemented that are expected to have a material impact on our financial statements.

### **FINANCIAL CONDITION AND LIQUIDITY**

The Company has a history of net losses and negative cash flow from operations. We have had losses in each of the last three years, but we have a plan to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6. The accompanying financial statements have been prepared in conformity with generally accepted accounting principles, which contemplate continuation of the Company as a going concern, and do not include any adjustments that may be required if it were unable to continue as a going concern. Management and the Board believe that the actions taken to date in 2014 and currently being taken will allow the Company to achieve positive cashflow from operations for 2014, prior to interest expense and expenses associated with the business combination discussed in Note 6, and to achieve profitability in future years. These actions include both significant expense cuts and the business discussion with NanoHolding, Inc. as discussed above.

Our cash position was basically unchanged during the period from December 31, 2013 to June 30, 2014 at approximately \$119,000.

Our net cash used in operating activities decreased substantially from approximately \$300,000 in the 2013 Period to approximately \$100,000 in the 2014 Period. A significant portion of this is the result of operating factors discussed below in the "Results of Operations", impacted by non-cash expenses, and working capital management. Working capital management included a focus on collecting and reducing accounts receivable, deferral or delay in payment of accounts payable, and receipt of customer payments in advance of work performed.

We would expect our cash used in, or provided by, operating activities to fluctuate in future quarters in 2014, depending on the timing of receipt of various items. We expect positive cash flow from operations in future quarters in 2014, but not in all quarters, depending on the timing of the receipt of funds from the convertible notes and timing of payment of expenses.

Our cash provided by financing activities was approximately \$85,000 and \$300,000 in the 2014 and 2013 Periods, respectively. In both periods, this was the result of issuing convertible notes payable to supplement our cash balance, partially offset by payments on capital leases and notes payable.

We had no capital expenditures in either period, and we expect cash used in or provided by investing activities to remain at insignificant levels for the balance of 2014.

Historically, the principal source of our liquidity has been funds received from exempt offerings of common stock and debt. While we expect to be able to obtain any funds needed for operations, we do not have the funds to meet the obligations to our debt holders. If the proposed business combination is not completed, we will be required to reach agreement with our existing convertible debt holders to extend their notes, to convert those notes to equity, or raise additional funding to pay the notes in order to continue operations. We currently do not have the authorized shares available to either convert the notes currently outstanding, or to issue new equity. We have included a proposal to increase our authorized shares at our shareholder meeting on August 22, 2014; however, if this is not approved, our financing alternatives will be limited. There can be no assurance that any financing alternatives can be arranged on commercially acceptable terms or that we will be successful in obtaining financing. If we are unable to achieve sufficient revenues to support our operations, we may be required to obtain funding on terms that are unfavorable to the Company. We believe that our success in reaching sustainable profitability will be dependent on our patent portfolio and upon the viability of products using our technology and their acceptance in the marketplace, as well as our ability to obtain additional debt or equity financings in the future, if needed.

## ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (cont.)

We expect to continue to incur substantial expenses for research and development activities. Further, we believe that certain products that may be developed by us, or licensees of our technology, will not be available for commercial sale for a period of one to two years. Therefore, it is likely that the commercialization of our existing and proposed products will require additional capital in excess of our ability to raise funds. In addition, commercialization of our technology would require us to hire new executives with the skills and experience to develop and take products to market. Achievement of at least cash flow break-even would enable us to continue our research without seeking additional financing solely to support operations in the future.

There may be substantial fluctuations in our results of operations. We currently are focused almost solely on research activities and are unable to undertake any commercialization activities without raising additional capital and hiring additional staff and executive talent. Given the extensive costs associated with product commercialization, it is unlikely that we can commercialize our technology without a substantial capital raise, or achieve sustained profitability for an extended period of time.

### RESULTS OF OPERATIONS

The operating loss for both the quarter and six months ended June 30, 2014 was substantially decreased from the operating loss during the same time periods in 2013 – both decreasing by over 50%. The net loss, however, was significantly impacted in both periods by interest expense associated with our convertible debt financing as discussed further below. The decreased operating losses were the result of reasons set forth below.

Our revenues for the quarter ended June 30, 2014 totaled approximately \$560,000 compared to approximately \$1.065 million for the same quarter of 2013. For the six-month period ended June 30, 2014 (the “2014 Period”), our revenues were approximately \$1.45 million as compared with approximately \$2.0 million for the six-month period ended June 30, 2013 (the “2013 Period”). The majority of the revenues in both periods came from government sources, which is included in government contract revenue in the statement of operations. The overall decrease related to reductions in contract research, royalties, and product sales, while government research revenues increased from period to period. The decrease in contract research from private sources resulted from fewer contracts and smaller contracts, as well as a reduction in employee wage rates that resulted in lower billings on these contracts.

The royalties decreased because the majority of the royalties in the 2013 Period were from Yonex, and Yonex made a one-time lump sum payment later in 2013 to buy out the remainder of their license. As such there will be no more royalties from Yonex. The remainder of the royalties during the 2013 Period were from YHCC as part of a lump sum payment to extend its territory. No further royalties are expected from YHCC in the foreseeable future. Product sales decreased because we eliminated our sales force later in 2013 and are no longer focusing on product sales. Product sales will remain at negligible levels for the balance of 2014 and until sufficient resources are devoted to product commercialization.

We have a research revenue backlog of approximately \$2.4 million as of June 30, 2014, as compared to our backlog of approximately \$2.5 million as of June 30, 2013. We have several quotes in process, and we expect to land additional research contracts to maintain or research backlog at this level or above. Our ability to perform continued research, or fulfill our backlog, will not require additional personnel. We do not anticipate hiring any additional people for research purposes for the balance of the year, unless we receive significant new revenues.

At the present stage of our development, significant conclusions cannot be drawn by comparing revenues from period to period; however, we would expect the quarterly revenue for the balance of 2014 to increase slightly above the second quarter level. Our plan calls for targeted revenues of \$4.2 million for 2014, but we likely will fall significantly short of that, and as a result have cut expenses. Our current business strategy is built on generating revenue through research contracts and keeping costs down to a level to attain positive cash flow from operations. Our revenues will not increase significantly without commercialization of our technology, which will require capital in excess of that currently available to us.

## ITEM 2: MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS (cont.)

We incurred research and development expenses of approximately \$1.1 million in the 2014 Period, which was down significantly from approximately \$1.8 million incurred in the 2013 Period. This decrease in research expenses is a direct result of cost reduction efforts, including elimination of the majority of spending related to unfunded projects. We expect research and development expenditures to remain near the current level for the balance of 2014; however, significant new revenue producing research programs beyond those already identified could cause research and development expenditures to increase further.

Our selling, general, and administrative expenses decreased from approximately \$1.4 million for the 2013 Period to approximately \$900,000 for the 2014 Period. The 2014 amount includes approximately \$210,000 of expenses related to the proposed business combination. Without those expenses, the selling general and administration expenses would have been approximately \$675,000. This decrease in selling, general, and administrative expenses was primarily the result of our cost cutting efforts, which included a reduction in the number of administrative personnel, a reduction in the number of executive officers, a reduction in salary rates, a reduction in patent expenses, and a reduction in travel and other expenses. Significant additional cuts were made in March 2014, so excluding transaction costs, the quarterly selling general and administrative expenses should be similar to, or lower than, the level of the second quarter in future quarters. The actual amount of decrease is dependent on the amount of transaction costs incurred related to the proposed business combination. We expect significant additional transaction related costs in the third, quarter of 2014.

Our interest income is insignificant in both periods. Our interest income results from the investment of excess funds in short term interest bearing instruments, primarily certificates of deposit, commercial paper, and money market funds. We expect our interest income to remain at insignificant levels for the balance of 2014.

Our interest expense, which is primarily the result of our convertible notes payable, increased significantly from the 2013 Period to the 2014 Period – from approximately \$900,000 to approximately \$1.3 million. This interest expense includes both the stated interest rate on the debt and the amortization of the discount associated with the beneficial conversion feature of the notes, as well as costs associated with lowering the conversion price on existing notes. The interest expense increased primarily because of costs associated with lowering the conversion price on existing notes. The 2014 Period included approximately \$1.1 million in costs related to lowering the conversion price, while the 2013 Period included only approximately \$400,000 of such costs.

If the stockholders approve the proposed business combination with NanoHolding, Inc., it will have a significant effect on the operating results of the Company. The preceding discussion is based on the company remaining independent. If the business combination is approved and consummated, annual revenues for the combined entities would approximate \$13.5 million and all categories of cost would increase accordingly. Additional information on NanoHolding and the combined entity is included in the proxy statement, dated as of July 3, 2014 for the August 22, 2014 shareholder meeting to vote on the proposed business combination.

The business combination will be accounted for under the purchase method of accounting, with NanoHolding being treated as the acquirer. This will result in a significant upward adjustment in asset values, with the exact amount dependent upon the fair market value at the time of the transaction. The transaction will likely result in significant amounts of intangible assets being recognized and also likely being considered as impaired under generally accepted accounting principles. The exact amount is dependent on the market value at the time of the transaction. Accounting for the transaction, if consummated, will have a significant negative impact on the reported operating results of the Company, but economically have a positive impact on operations.

### **ITEM 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

Not applicable to smaller reporting companies.

### **ITEM 4. CONTROLS AND PROCEDURES**

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of the design and operation of our disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as of the end of the period covered by this report (the "Evaluation Date"). Based upon this evaluation, our principal executive officer and principal financial officer concluded as of the Evaluation Date that our disclosure controls and procedures were effective such that the material information required to be included in our Securities and Exchange Commission ("SEC") reports is recorded, processed, summarized, and reported within the time periods specified in SEC rules and forms relating to the Company, including, our consolidated subsidiaries, and was made known to them by others within those entities, particularly during the period when this report was being prepared.

Our management, including our principal executive officer and principal financial officer, does not expect that our disclosure controls and procedures or our internal controls will prevent all error and all fraud. A control system, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that the objectives of the control system are met. Further, the design of a control system must reflect the fact that there are resource constraints and the benefits of controls must be considered relative to their costs. Due to the inherent limitations in all control systems, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within our company have been detected.

#### ***Changes in Internal Control***

There were no changes identified in connection with our internal control over financial reporting during the six months ended June 30, 2014 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.



## **PART II. OTHER INFORMATION**

### **ITEM 1. LEGAL PROCEEDINGS**

None

### **ITEM 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS**

From January 1, 2014 through June 30, 2014, we issued 8,528,324 shares of common stock as the result of the conversion of notes payable and related accrued interest in the amount of \$182,331. During the same period, we issued 1,200,000 shares of common stock in payment of an accounts payable of \$30,000 in an exempt offering under Regulation D of the Securities Act of 1933.

From January 1, 2014 through June 30, 2014, the Company issued \$236,250 of convertible notes payable. These notes are due July 15, 2015, bear interest at a rate of 8%, and are convertible into common stock at a discount of 25% from the market price of the common stock at the time of conversion. If the proposed business combination occurs, the notes will be automatically convertible into common stock of the merged entity under the same terms. A total of \$50,000 of these notes were issued to existing Directors of the Company and a total of \$10,000 were issued to proposed Directors of the new merged entity that are not currently Directors of the Company.

The issuance of the Company's shares of common stock and convertible notes discussed above were exempt from registration under the Securities Act of 1933, as amended, in reliance on Sections 4(a)(2) and 3(a)(9).

### **ITEM 3. DEFAULTS UPON SENIOR SECURITIES**

None

### **ITEM 4. MINE SAFETY DISCLOSURES**

Not applicable.

### **ITEM 5. OTHER INFORMATION**

None

### **ITEM 6. EXHIBITS**

(a) Exhibits: See Index to Exhibits on page 12 for a descriptive response to this item.

**SIGNATURES**

Pursuant to the requirements of the Securities and Exchange Act of 1934, the Registrant has duly caused this Report to be signed on its behalf by the undersigned thereunto duly authorized.

APPLIED NANOTECH HOLDINGS, INC.  
(Registrant)

Date: August 5, 2014

/s/ Dr. Zvi Yaniv  
Dr. Zvi Yaniv  
President and Chief Operating Officer  
(Principal Executive Officer)

Date: August 5, 2014

/s/ Jacque Soptick  
Jacque Soptick  
Controller  
(Principal Financial Officer, and Principal Accounting Officer)

## INDEX TO EXHIBITS

The following documents are filed as part of this Report:

<u>Exhibit No.</u>	<u>Description</u>
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) (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
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. (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
10.2*	Separation and Release Agreement, dated March 10, 2014, between Douglas P. Baker and the Company. (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014)
10.3*	Consulting Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
10.4*	Promissory Note, dated March 10, 2014 issued by the Company to Douglas P. Baker (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014) .
10.5*	Stock Grant Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
10.6*	Piggyback Registration Rights Agreement, dated March 10, 2014, between Douglas P. Baker and the Company (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
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 (Incorporated herein by reference to the Company's Form 8-K filed with the Commission on March 11, 2014).
11**	Computation of (Loss) Per Common Share
31.1**	Rule 13a-14(a)/15d-14(a) Certificate of Dr. Zvi Yaniv
31.2**	Rule 13a-14(a)/15d-14(a) Certificate of Jacque Soptick
32.1**	Section 1350 Certificate of Dr. Zvi Yaniv
32.2**	Section 1350 Certificate of Jacque Soptick
101.INS***	XBRL Instance Document
101.SCH***	XBRL Taxonomy Extension Schema
101.CAL***	XBRL Taxonomy Extension Calculation
101.DEF***	XBRL Taxonomy Extension Definition
101.LAB***	XBRL Taxonomy Extension Labels
101.PRE***	XBRL Taxonomy Extension Presentation Linkbase
*	Incorporated by reference from Current Report on Form 8-K dated March 11, 2014
**	Filed Herewith
***	XBRL Information is furnished and not filed or a part of a registration statement or prospectus for purposes of sections 11 or 12 of the Securities Act of 1933, as amended, is deemed not filed for purposes of section 18 of the Securities Exchange Act of 1934, as amended, and otherwise is not subject to liability under these sections.

**Exhibit 11**  
**Applied Nanotech Holdings, Inc.**  
**Computation of Income (Loss) Per Share**

	<u>Three Months ended June 30,</u>		<u>Six Months ended June 30,</u>	
	<u>2014</u>	<u>2013</u>	<u>2014</u>	<u>2013</u>
Computation of loss per common share:				
Net loss applicable to common shares	\$ (1,456,402)	\$ (643,918)	\$ (1,897,882)	\$ (2,018,858)
Weighted average number of common shares	157,163,416	127,993,613	155,801,782	126,450,138
Net income (loss) per common share	\$ (0.01)	\$ (0.01)	\$ (0.01)	\$ (0.02)

\*\* No computation of diluted loss per common share is included for the other periods because such computation results in an antidilutive loss per common share.

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**Certificate of Principal Executive Officer**  
**Pursuant to Rule 13a-14(a)/15d-14(a)**

I, Dr. Zvi Yaniv, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended June 30, 2014 of Applied Nanotech Holdings, Inc. (“APNT”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present, in all material respects, the financial condition, results of operations and cash flows of APNT as of, and for, the periods presented in this report.
4. APNT’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in the Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in the Exchange Act Rules 13a – 15(f) and 15d – 15(f)) for APNT and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to APNT, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of APNT’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in APNT’s internal control over financial reporting that occurred during APNT’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, APNT’s internal control over financial reporting; and
5. APNT’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to APNT’s auditors and the audit committee of APNT’s board of directors:
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect APNT’s ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in APNT’s internal control over financial reporting.

Date: August 5, 2014

*/s/ Dr. Zvi Yaniv*

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Dr. Zvi Yaniv  
President and Chief Operating Officer

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**Certificate of Principal Financial Officer**  
**Pursuant to Rule 13a-14(a)/15d-14(a)**

I, Jacque Soptick, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarter ended June 30, 2014 of Applied Nanotech Holdings, Inc. (“APNT”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present, in all material respects, the financial condition, results of operations and cash flows of APNT as of, and for, the periods presented in this report.
4. APNT’s other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in the Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in the Exchange Act Rules 13a – 15(f) and 15d – 15(f)) for APNT and have:
  - (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to APNT, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
  - (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
  - (c) Evaluated the effectiveness of APNT’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
  - (d) Disclosed in this report any change in APNT’s internal control over financial reporting that occurred during APNT’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, APNT’s internal control over financial reporting; and
5. APNT’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to APNT’s auditors and the audit committee of APNT’s board of directors:
  - (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect APNT’s ability to record, process, summarize and report financial information; and
  - (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in APNT’s internal control over financial reporting.

Date: August 5, 2014

*/s/ Jacque Soptick*

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Jacque Soptick  
Controller

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**Section 1350 Certification of Principal Executive Officer**

In connection with the quarterly report of Applied Nanotech Holdings, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Dr. Zvi Yaniv, the President and Chief Operating Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13 (a) or 15 (d) of the Securities Exchange Act of 1934; and
2. The information contained in this Report fairly presents, in all material respects, the financial conditions and results of operations of the Company as of the dates and for the periods expressed in the report.

Date: August 5, 2014

*/s/ Dr. Zvi Yaniv*

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Dr. Zvi Yaniv  
President and Chief Operating Officer

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**Section 1350 Certification of Principal Financial Officer**

In connection with the quarterly report of Applied Nanotech Holdings, Inc. (the "Company") on Form 10-Q for the quarter ended June 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Jacque Soptick, the Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

1. The Report fully complies with the requirements of Section 13 (a) or 15 (d) of the Securities Exchange Act of 1934; and
2. The information contained in this Report fairly presents, in all material respects, the financial conditions and results of operations of the Company as of the dates and for the periods expressed in the report.

Date: August 5, 2014

*/s/ Jacque Soptick*

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Jacque Soptick  
Controller

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