
**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 September 30, 2014

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

COMMISSION FILE NO. 1-11602

PEN INC.

(Exact name of registrant as specified in its charter)

DELAWARE

(State or other jurisdiction of
incorporation or organization)

47-1598792

(I.R.S. Employer
Identification No.)

**431 Fairway Drive, Suite 200
Deerfield Beach, FL**

(Address of principal executive offices)

33441

(Zip Code)

(844) 273-6462

(Registrant's telephone number, including area code)

Former name or former address, if changed since last report: **Not applicable.**

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 (Do not check if a smaller reporting company)

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 November 14, 2014, the registrant had 233,647,854 shares of Class A common stock, par value \$.0001 per share, issued and outstanding.

PEN Inc.
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FORWARD-LOOKING STATEMENTS

This Form 10-Q contains certain forward-looking statements that we believe are within the meaning of the federal securities laws. 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.

PART I. FINANCIAL INFORMATION

ITEM 1. FINANCIAL STATEMENTS

**PEN INC. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS**

	September 30, 2014 (Unaudited)	December 31, 2013
ASSETS		
CURRENT ASSETS:		
Cash	\$ 254,429	\$ 100,367
Accounts receivable, net	1,089,697	1,524,303
Accounts receivable - related party	9,112	17,224
Inventory	1,255,890	1,484,456
Prepaid expenses and other current assets	426,588	107,718
Total Current Assets	3,035,716	3,234,068
OTHER ASSETS:		
Property, plant and equipment, net	803,276	672,704
Intangible assets, net	2,387,198	-
Other assets	37,197	73,504
Total Other Assets	3,227,671	746,208
TOTAL ASSETS	\$ 6,263,387	\$ 3,980,276
LIABILITIES AND STOCKHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Bank revolving line of credit	\$ -	\$ 199,919
Current portion of bank term loan	-	60,000
Convertible notes payable, net	66,666	-
Convertible notes payable - related parties, net	80,001	-
Accounts payable	1,424,102	721,860
Accrued expenses	1,077,572	344,271
Income taxes payable	50,000	-
Deferred revenue	120,871	-
Total Current Liabilities	2,819,212	1,326,050
LONG-TERM LIABILITIES:		
Bank term loan, net of current portion	-	515,000
Other long-term liabilities	-	127,914
Total Long-term Liabilities	-	642,914
Total Liabilities	2,819,212	1,968,964
STOCKHOLDERS' EQUITY:		
Preferred stock, \$.0001 par value, 20,000,000 shares authorized; No shares issued and outstanding	-	-
Class A common stock: \$.0001 par value, 1,300,000,000 shares authorized; 232,316,856 and 27,670,187 issued and outstanding at September 30, 2014 and December 31, 2013, respectively	23,232	2,767
Class B common stock: \$.0001 par value, 400,000,000 shares authorized; 250,731,549 and 250,698,105 issued and outstanding at September 30, 2014 and December 31, 2013, respectively	25,073	25,070
Class Z common stock: \$.0001 par value, 100,000,000 shares authorized; 47,273,470 and 47,273,470 issued and outstanding at September 30, 2014 and December 31, 2013, respectively	4,727	4,727
Additional paid-in capital	4,454,735	3,083,413
Accumulated deficit	(1,063,592)	(1,104,665)
Total Stockholders' Equity	3,444,175	2,011,312
Total Liabilities and Stockholders' Equity	\$ 6,263,387	\$ 3,980,276

See accompanying notes to unaudited consolidated financial statements.

PEN INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF OPERATIONS

	For the Three Months Ended		For the Nine Months Ended	
	September 30,		September 30,	
	2014	2013	2014	2013
	(Unaudited)	(Unaudited)	(Unaudited)	(Unaudited)
SALES:				
Third parties	\$ 1,913,911	\$ 2,391,073	\$ 7,446,232	\$ 6,529,367
Related party	<u>40,810</u>	<u>44,353</u>	<u>147,862</u>	<u>174,626</u>
Total Sales	1,954,721	2,435,426	7,594,094	6,703,993
COST OF SALES	<u>1,340,759</u>	<u>1,524,087</u>	<u>4,172,427</u>	<u>4,148,487</u>
GROSS PROFIT	<u>613,962</u>	<u>911,339</u>	<u>3,421,667</u>	<u>2,555,506</u>
OPERATING EXPENSES:				
Selling and marketing expenses	42,033	57,878	186,062	201,108
Salaries, wages and contract labor	574,213	313,733	1,448,933	961,106
Research and development	131,371	267,135	426,740	727,021
Professional fees	249,503	81,998	568,225	272,511
General and administrative expenses	<u>265,563</u>	<u>175,094</u>	<u>622,085</u>	<u>557,064</u>
Total Operating Expenses	<u>1,262,683</u>	<u>895,838</u>	<u>3,252,045</u>	<u>2,718,810</u>
INCOME (LOSS) FROM OPERATIONS	<u>(648,721)</u>	<u>15,501</u>	<u>169,622</u>	<u>(163,304)</u>
OTHER INCOME (EXPENSES):				
Interest income	-	6	-	35
Interest expenses	(1,806)	(15,521)	(19,230)	(72,051)
Other income, net	<u>12,124</u>	<u>30,813</u>	<u>-</u>	<u>37,678</u>
Total Other Income/(Expense)	<u>10,318</u>	<u>15,298</u>	<u>(19,230)</u>	<u>(34,338)</u>
Income (loss) before income taxes	(638,403)	30,799	150,392	(197,642)
Income tax benefit (expense)	<u>159,726</u>	<u>-</u>	<u>(55,901)</u>	<u>-</u>
NET INCOME (LOSS)	(478,677)	30,799	94,491	(197,642)
Net (income) loss attributable to former non-controlling interest	<u>29,790</u>	<u>(4,478)</u>	<u>(53,418)</u>	<u>28,692</u>
NET INCOME (LOSS) ATTRIBUTABLE TO PEN INC.	<u>\$ (448,887)</u>	<u>\$ 26,321</u>	<u>\$ 41,073</u>	<u>\$ (168,950)</u>
NET INCOME (LOSS) PER COMMON SHARE:				
Basic	<u>\$ (0.00)</u>	<u>\$ 0.00</u>	<u>\$ 0.00</u>	<u>\$ (0.00)</u>
Diluted	<u>\$ (0.00)</u>	<u>\$ 0.00</u>	<u>\$ 0.00</u>	<u>\$ (0.00)</u>
WEIGHTED AVERAGE COMMON SHARES OUTSTANDING:				
Basic	<u>401,181,389</u>	<u>325,641,762</u>	<u>351,098,340</u>	<u>325,641,762</u>
Diluted	<u>401,181,389</u>	<u>325,641,762</u>	<u>351,098,340</u>	<u>325,641,762</u>

See accompanying notes to unaudited consolidated financial statements.

PEN INC. AND SUBSIDIARIES
STATEMENTS OF CHANGES IN STOCKHOLDERS' EQUITY
FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2014 (UNAUDITED)

	<u>Class A Common Stock</u>		<u>Class B Common Stock</u>		<u>Class Z Common Stock</u>		<u>Additional</u>	<u>Accumulated</u>	<u>Total</u>
	<u># of Shares</u>	<u>Amount</u>	<u># of Shares</u>	<u>Amount</u>	<u># of Shares</u>	<u>Amount</u>	<u>Capital</u>	<u>Deficit</u>	<u>Stockholders' Equity</u>
Balance, December 31, 2013	27,670,187	\$ 2,767	250,698,105	\$ 25,070	47,273,470	\$ 4,727	\$ 3,083,413	\$ (1,104,665)	\$ 2,011,312
Shares deemed issued in reverse merger	203,363,059	20,336	-	-	-	-	1,214,946	-	1,235,282
Common stock issued for services	1,283,610	129	33,444	3	-	-	89,188	-	89,320
Accretion of Class A shares issuable based on market conditions	-	-	-	-	-	-	13,770	-	13,770
Net income	-	-	-	-	-	-	53,418	41,073	94,491
Balance, September 30, 2014 (unaudited)	<u>232,316,856</u>	<u>\$ 23,232</u>	<u>250,731,549</u>	<u>\$ 25,073</u>	<u>47,273,470</u>	<u>\$ 4,727</u>	<u>\$ 4,454,735</u>	<u>\$ (1,063,592)</u>	<u>\$ 3,444,175</u>

See accompanying notes to unaudited consolidated financial statements.

PEN INC. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

	For the Nine Months Ended	
	September 30,	
	2014	2013
	(Unaudited)	(Unaudited)
CASH FLOWS FROM OPERATING ACTIVITIES		
Net income (loss)	\$ 94,491	\$ (197,642)
Adjustments to reconcile net income (loss) to net cash provided by (used in) operating activities:		
Change in inventory obsolescence reserve	26,535	217,206
Change in value of equity credits		(160)
Depreciation and amortization expense	171,502	165,213
Amortization of deferred lease incentives	(9,623)	(9,623)
Stock-based compensation	103,090	-
Change in operating assets and liabilities:		
Accounts receivable	713,604	(640,927)
Accounts receivable related party	8,112	68,304
Inventory	202,031	(275,765)
Prepaid expenses and other assets	(230,562)	(137,359)
Accounts payable	(179,688)	166,324
Accrued expenses	101,003	77,135
Income taxes payable	50,000	-
Deferred revenue	(25,596)	-
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	1,024,899	(567,294)
CASH FLOWS FROM INVESTING ACTIVITIES		
Cash acquired in acquisition	48,121	-
Purchases of property and equipment	(144,039)	(37,796)
NET CASH USED IN INVESTING ACTIVITIES	(95,918)	(37,796)
CASH FLOWS FROM FINANCING ACTIVITIES		
Repayment of bank lines of credit, net	(774,919)	-
Repayment of bank loans	-	(740,084)
NET CASH USED IN FINANCING ACTIVITIES	(774,919)	(740,084)
NET INCREASE (DECREASE) IN CASH	154,062	(1,345,174)
CASH, beginning of year	100,367	1,540,581
CASH, end of period	<u>\$ 254,429</u>	<u>\$ 195,407</u>
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION		
Cash paid during the period for interest		
Interest	\$ 19,230	\$ 72,051
Income taxes	\$ -	\$ -
SUPPLEMENTAL DISCLOSURE OF NON-CASH INVESTING AND FINANCING ACTIVITIES:		
Liabilities assumed in share exchange	\$ 1,689,070	\$ -
Less: assets acquired in share exchange	496,693	-
Net liabilities assumed	1,192,377	-
Fair value of shares exchanged	1,235,282	-
Increase in intangible assets	\$ 2,427,659	\$ -

See accompanying notes to unaudited consolidated financial statements.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 1 – ORGANIZATION AND BASIS OF PRESENTATION

Organization

PEN Inc. (“we”, “us”, “our”, “PEN” or the “Company”), a Delaware company, develops and sells a portfolio of nano-layer coatings, nano-based cleaners, and nano-composite products based on its proprietary technology and is a global leader in nanotechnology research and development focused on generating revenues through performing research services.

Through our wholly owned subsidiary, Nanofilm Holding, Inc., and its subsidiary Nanofilm, Ltd., we develop, manufacture and sell products based on technology which permits the fabrication of oriented, ultra-thin films of organic or polymeric crystals, and also produce a line of personal lens cleaners and accessories. These products are marketed internationally primarily to customers in the eyeglass industry.

Through our wholly-owned subsidiary, Applied Nanotech, Inc., we primarily conduct research and development services for customers.

On August 27, 2014 (the “Effective Date”), Applied Nanotech Holdings, Inc., a Texas corporation (“Applied Nanotech”), together with its wholly owned direct subsidiaries, PEN and NanoMerger Sub Inc., a Delaware corporation (“Merger Sub”), completed a combination (the “Combination”) with NanoHolding Inc. (“Nano”). The Combination included three parts: (i) a redomestication of Applied Nanotech from Texas to Delaware by way of Applied Nanotech’s merger into PEN, (ii) a subsequent merger of Nano into Merger Sub, with Merger Sub (n/k/a Nanofilm Holding Inc.) the surviving entity, and (iii) a subsequent exchange of 100% of Carl Zeiss, Inc.’s interest in Nanofilm Ltd., Nano’s wholly owned subsidiary (“Nanofilm”), for stock in PEN. Nanofilm is a company formed under the laws of the Ohio on June 14, 1995 as a limited liability company.

Immediately prior to the effective date, outstanding convertible notes of Applied Nanotech were converted into common stock, for which an aggregate of 32,379,288 shares of PEN Class A common stock were issued, and 11,164,620 shares of PEN Class A common stock were issued to directors of the Company in payment of accrued fees. PEN also issued 1,500,000 shares of Class A common stock in satisfaction of a note held by the former CFO of the Company. Accordingly, immediately prior the Effective Date, the Company had 203,363,059 PEN Class A shares outstanding.

On the Effective Date, the merger was accounted for as a reverse merger and recapitalization of Nano (See Note 3). On the Effective Date, the pre-merger shares of Nanoholdings, Inc. were exchanged for an aggregate of 27,670,187 shares of Class A common stock of PEN and 250,698,105 shares of Class B common stock of PEN. Additionally, the Class Z member interests of Nanofilm (the non-controlling interests) were exchanged for 47,273,470 Class Z shares of PEN. The effect of these exchanges is reflected retroactively in the accompanying consolidated financial statements for all periods presented.

On the Effective Date, the merger was accounted for as a reverse merger and recapitalization of Nano (See Note 3).

Basis of Presentation

The Company’s consolidated financial statements include the financial statements of its wholly-owned subsidiaries, Applied Nanotech, Inc., EZ Diagnostix, Inc. (inactive), Nanofilm Holding Inc, and Nanofilm, Ltd. All significant intercompany accounts and transactions have been eliminated in consolidation.

The consolidated financial statements for the three and nine month periods ended September 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 September 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 of Nano as of that date.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 1 – ORGANIZATION AND BASIS OF PRESENTATION (continued)

Basis of Presentation (continued)

The Company's historical results of operations include an allocation of the net income (loss) of Nanofilm, Ltd. to the 14.5% non-controlling interest of Nanofilm, Ltd. up to the effective date of the merger when the holder of that non-controlling interest exchanged its membership interest for shares of PEN Inc. resulting in Nanofilm, Ltd. becoming a wholly-owned subsidiary of the Company. As a result of the exchange, the non-controlling interest is reflected retroactively for all periods presented in additional paid-in capital of the Company including \$(28,692) and \$53,418 for the nine months ended September 30, 2013 and 2014, respectively.

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 audited consolidated financial statements and footnotes of Nano as of December 31, 2013 and 2012 and for the years ended December 31, 2013 and 2012 included in our July 2, 2014 Definitive Proxy Statement, as filed with the U.S. Securities and Exchange Commission Report on Form 8-K, and 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 nine month periods ended September 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.

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Significant estimates for the nine months ended September 30, 2014 and 2013 include the allowance for doubtful accounts on accounts receivable, the allowance for obsolete inventory, the useful life of property and equipment, assumptions used in assessing impairment of long-term assets, the fair value of assets acquired and liabilities assumed in the merger, estimates of income taxes, and the fair value of any equity transactions.

Fair value of financial instruments and fair value measurements

The Company adopted the guidance of Accounting Standards Codification ("ASC") 820 for fair value measurements which clarifies the definition of fair value, prescribes methods for measuring fair value, and establishes a fair value hierarchy to classify the inputs used in measuring fair value as follows:

Level 1-Inputs are unadjusted quoted prices in active markets for identical assets or liabilities available at the measurement date.

Level 2-Inputs are quoted prices for similar assets and liabilities in active markets, quoted prices for identical or similar assets and liabilities in markets that are not active, inputs other than quoted prices that are observable, and inputs derived from or corroborated by observable market data.

Level 3-Inputs are unobservable inputs which reflect the reporting entity's own assumptions on what assumptions the market participants would use in pricing the asset or liability based on the best available information.

The carrying amounts reported in the consolidated balance sheets for cash and cash equivalents, accounts receivable, loans and lines of credit, accounts payable, accrued expenses, and other payables approximate their fair market value based on the short-term maturity of these instruments.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Fair value of financial instruments and fair value measurements (continued)

The Company analyzes all financial instruments with features of both liabilities and equity under the FASB’s accounting standard for such instruments. Under this standard, financial assets and liabilities are classified in their entirety based on the lowest level of input that is significant to the fair value measurement.

	Stock Appreciation Rights Plan A	Equity Credits Issued
Balance at December 31, 2013	\$ 58,999	\$ 25,079
Equity credits forfeited	-	-
Balance at September 30, 2014	\$ 58,999	\$ 25,079

ASC 825-10 “Financial Instruments”, allows entities to voluntarily choose to measure certain financial assets and liabilities at fair value (fair value option). The fair value option may be elected on an instrument-by-instrument basis and is irrevocable, unless a new election date occurs. If the fair value option is elected for an instrument, unrealized gains and losses for that instrument should be reported in earnings at each subsequent reporting date. The Company did not elect to apply the fair value option to any outstanding instruments.

Cash and cash equivalents

For purposes of the consolidated statements of cash flows, the Company considers all highly liquid instruments with a maturity of three months or less at the purchase date and money market accounts to be cash equivalents.

Accounts receivable

The Company recognizes an allowance for losses on accounts receivable in an amount equal to the estimated probable losses net of recoveries. The allowance is based on an analysis of historical bad debt experience, current receivables aging, and expected future write-offs, as well as an assessment of specific identifiable customer accounts considered at risk or uncollectible. The expense associated with the allowance for doubtful accounts is recognized as general and administrative expense. At September 30, 2014 and December 31, 2013, outstanding accounts receivable are shown net of allowance for doubtful accounts of \$15,891 and \$16,017, and sales discount reserve of \$7,307 and \$10,555, respectively.

Inventory

Inventory is stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

Intangible assets

Intangible assets, consisting of patents, patent pending technologies and other technologies being amortized on a straight-line method over the estimated useful life of 5 years.

Impairment of long-lived assets

In accordance with ASC Topic 360, the Company reviews long-lived assets for impairment whenever events or changes in circumstances indicate that the carrying amount of the assets may not be fully recoverable, or at least annually. The Company recognizes an impairment loss when the sum of expected undiscounted future cash flows is less than the carrying amount of the asset. The amount of impairment is measured as the difference between the asset’s estimated fair value and its book value. The Company did not record any impairment charge for the three and nine months ended September 30, 2014 and 2013.

Revenue recognition

Pursuant to the guidance of ASC Topic 605, the Company recognizes sales when persuasive evidence of an arrangement exists, delivery has occurred or services have been provided, the purchase price is fixed or determinable and collectability is reasonably assured.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Revenue recognition (continued)

Types of revenue:

- Net product sales by our subsidiary Nano,
- Reimbursements under agreements to perform research and development for government agencies and others by our subsidiary, Applied Nanotech. We do not perform research contracts that are contingent upon successful results. Larger projects are sometimes broken down in phases to allow the customer to determine at the end of each phase if they wish to move to the next phase. The agreements with federal government agencies generally provide that, upon completion of a technology development program, the funding agency is granted a royalty-free license to use any technology developed during the course of the program for its own purposes, but not any preexisting technology that we use in connection with the program. We retain all other rights to use, develop, and commercialize the technology. Agreements with nongovernmental entities generally allow the entity the first opportunity to license the technology from us upon completion of the project.
- Product sales and other miscellaneous revenues from our subsidiary, Applied Nanotech such as the sale of printable inks and pastes, gas sensors and thermal management materials.

Revenue Recognition Criteria

- Net product sales by our subsidiary Nano, are recognized when the product is shipped to the customer and title is transferred.
- Revenue from research and development government contracts is recognized when it is earned pursuant to the terms of the contract. Long-term projects grants that usually range from \$500,000 to \$1,000,000 in total and usually extend for a period of approximately two years, are generally based on reimbursement of costs. These projects are usually billed monthly based on costs, hours, or some other measure of activity during the month. As a general rule, we recognize revenue on these contracts based on the activity level of the contract during the period as compared with total estimated activity. This generally would be a measure of proportional performance on the contract, such as cost incurred compared with total expected cost. The recognition of revenue may not correspond with the billings allowable under the contract. To the extent that billings exceed revenue earned, a portion of the revenue is deferred until such time as it is earned. Short-term project grants that usually are less than \$100,000 and usually extend for a period of approximately 6 months, are billed at periodic intervals as specified in the contract.
- Revenue from research and development non-governmental contracts is recognized when it is earned pursuant to the terms of the contract. Each contract is unique and tailored to the needs of the customer and goals of the project. Some contracts may call for a monthly payment for a fixed period of time. Other contracts may be for a fixed dollar amount with an unspecified time period, although there is frequently a targeted completion date. These contracts generally involve some sort of up-front payment. Some contracts may call for the delivery of samples, or may call for the transfer of equipment or other items developed during the project to the customer. As a general rule, we recognize revenue on long term contracts based on the activity level of the contract during the period as compared with total estimated activity. This generally would be a measure of proportional performance on the contract, such as cost incurred compared with total expected cost. However, to the extent there are other significant contract provisions such as the delivery of more than a nominal amount of samples or delivery of equipment, we would modify this as appropriate. For other short term contracts, generally less than \$50,000, we recognize revenue when it is billed under the terms of the contract.
- Revenue from other product sales is recognized at the time the product shipped. The Company's subsidiary Applied Nanotech's primary business is research and development, not the sale of products. Product sales are generally insignificant in number, and are generally limited to the sale of printable inks and pastes, gas sensors, thermal management materials, samples, proofs of concepts, prototypes, or other items resulting from its research.
- Other miscellaneous revenue is recognized as deemed appropriate given the facts of the situation and is generally not material.

Sales incentives and consideration paid to customers

The Company accounts for certain promotional costs such as sales incentives and cooperative advertising as a reduction of sales. For the three and nine months ended September 30, 2014 and 2013, the Company recorded approximately \$30,030 and \$32,954, and \$95,538 and \$102,977, respectively, as a reduction of sales related to these costs.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Cost of sales

Cost of sales includes inventory costs, labor and related benefits, depreciation, overhead and shipping and handling costs incurred.

Shipping and handling costs

Shipping and handling costs incurred relating to the purchase of inventory are included in inventory which is charged to cost of sales as product are sold. Shipping and handling costs charged to customers are included in sales. For the three months ended September 30, 2014 and 2013 and for the nine months ended September 30, 2014 and 2013, shipping and handling costs incurred for product shipped to customers are included in cost of sales and amounted to \$42,047 and \$61,488, and \$151,955 and \$187,176, respectively.

Research and development

Research and development costs incurred in the development of the Company's products and under other Company sponsored research and development projects are expensed as incurred. Costs such as direct labor, direct costs, and other allocated costs incurred to perform research and development service pursuant to government and private research projects are included in cost of sales. For the three months ended September 30, 2014 and 2013 and for the nine months ended September 30, 2014 and 2013, research and development costs incurred in the development of the Company's products were \$131,371 and \$267,135, and \$426,740 and \$727,021, respectively, and are included in operating expenses on the accompanying consolidated statements of operations.

Advertising costs

The Company participates in various advertising programs. All costs related to advertising of the Company's products are expensed in the period incurred. For the three months ended September 30, 2014 and 2013 and for the nine months ended September 30, 2014 and 2013, advertising costs charged to operations were \$23,360 and \$29,936, and \$115,474 and \$139,946, respectively and are included in sales and marketing on the consolidated accompanying statements of operations. These advertising expenses do not include cooperative advertising sales incentives and which have been deducted from sales.

Federal and state income taxes

The Company accounts for income tax using the liability method prescribed by ASC 740, "Income Taxes". Under this method, deferred tax assets and liabilities are determined based on the difference between the financial reporting and tax bases of assets and liabilities using enacted tax rates that will be in effect in the year in which the differences are expected to reverse. The Company records a valuation allowance to offset deferred tax assets if based on the weight of available evidence, it is more-likely-than-not that some portion, or all, of the deferred tax assets will not be realized. The effect on deferred taxes of a change in tax rates is recognized as income or loss in the period that includes the enactment date.

Prior to the February 24, 2014, the Company's subsidiary, Nanofilm, operated as a limited liability company and passed all income and loss to each member based on their proportionate interest in Nanofilm. After February 24, 2014, the date on which Nanofilm reorganized by creating a corporation parent, Nanoholding Inc., approximately 85.5% of the net income (loss) of Nanofilm, was passed through to the majority member, Nanoholding Inc. After the effective date of the merger, 100% of the net income (loss) of Nanofilm is passed through to the Company.

The Company follows the accounting guidance for uncertainty in income taxes using the provisions of Accounting Standards Codification (ASC) 740 *Income Taxes*. Using that guidance, tax positions initially need to be recognized in the financial statements when it is more likely than not the position will be sustained upon examination by the tax authorities. As of September 30, 2014 and December 31, 2013 and, the Company had no uncertain tax positions that qualify for either recognition or disclosure in the financial statements. Tax years that remain subject to examination are the years ending on and after December 31, 2010. The Company recognizes interest and penalties related to uncertain income tax positions in other expense. However, no such interest and penalties were recorded as of September 30, 2014.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
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NOTE 2 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Income (loss) per share of common stock

ASC 260 “Earnings Per Share”, requires dual presentation of basic and diluted earnings per share (“EPS”) with a reconciliation of the numerator and denominator of the basic EPS computation to the numerator and denominator of the diluted EPS computation. Basic EPS excludes dilution. Diluted EPS reflects the potential dilution that could occur if securities or other contracts to issue common stock were exercised or converted into common stock or resulted in the issuance of common stock that then shared in the earnings of the entity. Basic net income (loss) per common share is computed by dividing net income (loss) available to common shareholders by the weighted average number of shares of common shares outstanding during the period. Diluted net income per common share is computed by dividing net income by the weighted average number of shares of common stock, common stock equivalents and potentially dilutive securities outstanding during each period. As of September 30, 2014, potential non-contingent dilutive common shares consist of common stock options (using the treasury stock method). As of September 30, 2014, 6,800,000 contingently common shares issuable based on certain market conditions (see Note 8) are not included in the potential dilutive shares in calculating the diluted EPS.

The following table presents a reconciliation of basic and diluted net income (loss) per common share:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Net income (loss) attributable to common shareholders for basic and diluted net income (loss) per common share	\$ (448,887)	\$ 26,321	\$ 41,073	\$ (168,950)
Weighted average ordinary shares outstanding - basic	401,181,389	325,641,762	351,098,340	325,642,762
Effect of dilutive securities:				
Stock options	-	-	-	-
Weighted average ordinary shares outstanding - diluted	401,181,389	325,641,762	351,098,340	325,642,762
Net income per ordinary share - basic	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00
Net income per ordinary share - diluted	\$ 0.00	\$ 0.00	\$ 0.00	\$ 0.00

The Company’s aggregate common stock equivalents at September 30, 2014 and 2013 include the following:

	September 30, 2014	September 30, 2013
Stock options	5,525,825	-
Total	5,525,825	-

Segment reporting

The Company uses “the management approach” in determining reportable operating segments. The management approach considers the internal organization and reporting used by the Company’s chief operating decision maker for making operating decisions and assessing performance as the source for determining the Company’s reportable segments. The Company’s chief operating decision maker is the Chairman and chief executive officer (“CEO”) of the Company, who reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. The Company classified the reportable operating segments into (i) the development, manufacture and sale of personal lens cleaners and accessories and ultra-thin films of organic or polymeric crystals (the “Nanofilm Segment”) and (ii) the performance of nanotechnology research and development services for government and private entities and any related sales of related products.

NOTE 3 – ACQUISITION

Effective August 27, 2014, pursuant to the reverse merger and recapitalization as discussed in Note 1, the Company and Nano merged. Both Nano and Applied Nanotech were interested in the Combination because of the opportunity to commercialize new products enabled by nanotechnology. The fact that Applied Nanotech was public will facilitate access to growth capital. The strong intellectual property portfolio of Applied Nanotech, combined with the experience of the Nano team, is to be the platform for the Company to expand its product offerings and commercialize the acquired technologies.

PEN INC. AND SUBSIDIARIES
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NOTE 3 – ACQUISITION (continued)

On the Effective Date, the merger was accounted for as a reverse merger and recapitalization of Nano using the acquisition method in accordance with ASC 805-10 and related subsections since the shareholders of Nano and its subsidiary, the legal acquiree, owned 61.6% of the aggregate outstanding common shares of PEN immediately following the completion of the merger, had its current officers assume all corporate and day-to-day management offices of PEN including chief executive officer and chief financial officer, and board members of Nano control a majority of the board after the Combination. Accordingly, Nano was deemed to be the accounting acquirer in the transaction and, consequently, the transaction is treated as a reverse merger with Nano as the acquiring company. Accordingly, the assets and liabilities and the historical operations that will be reflected in the PEN consolidated financial statements after the Effective Date are those of Nano and Subsidiary and are recorded at the historical cost basis of Nano. Applied Nanotech's assets and liabilities are recorded at their fair values as of the effective date and the results of operations of Applied Nanotech are consolidated with results of operations of Nano starting on the Effective Date.

To determine the fair value of the consideration given to acquire Applied Nanotech, the accounting acquiree, the Company analyzed the fair value of Nano, the accounting acquirer. Accordingly, the acquisition-date fair value of the consideration transferred by the Nano for its interest in Applied Nanotech was based on the number of equity interests that Nano issued to give the owners of Applied Nanotech the same percentage equity interest in the combined entity that resulted from the reverse merger. The Company used the fair value of Nano since it was determined to be a better indicator of the fair value of the consideration given to acquire Applied Nanotech.

In connection with the acquisition, the fair value of equity consideration given to acquire Applied Nanotech was \$1,235,282 and is reflected as 203,363,059 Class A common shares deemed issued to the pre-merger shareholders of Applied Nanotech and replacement options to purchase 5,525,825 Class A common shares of PEN. The purchase price exceeded the fair value of net liabilities acquired by \$2,427,659. The Company applied the \$2,427,659 of the excess to intangible assets consisting and patents, patents pending and other technologies, which will be amortized over a 60-month period. The results of operations of Applied Nanotech are included in the consolidated results of operations of the Company from the Effective Date of August 27, 2014 to September 30, 2014.

In connection with the Combination, for the nine months ended September 30, 2014, the Company incurred acquisition related costs of approximately \$235,000 which, pursuant to ASC 805, are expensed and included in professional fees on the accompanying consolidated statement of operations.

In connection with the merger, the Company entered into an at will employment agreement with the former CEO of Applied Nanotech, The Company determined that the consideration under this employment agreement did not qualify as additional purchase consideration

The fair value of the assets acquired and liabilities assumed from Applied Nanotech are as follows:

	<u>At August 27, 2014</u>
Assets acquired:	
Cash	\$ 48,121
Accounts receivable	278,997
Prepaid expenses	34,383
Property and equipment	117,574
Intangible assets	2,427,659
Other	<u>17,618</u>
Total assets	2,924,352
Liabilities assumed:	
Accounts payable	881,930
Convertible notes payable, net	146,667
Accrued expenses and other current liabilities	514,006
Deferred revenue	<u>146,467</u>
Total liabilities	1,689,070
Purchase price	<u>\$ 1,235,282</u>

The estimates of fair values and the purchase price allocation is subject to change pending the finalization of the valuation of assets acquired and liabilities assumed.

PEN INC. AND SUBSIDIARIES
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NOTE 3 – ACQUISITION (continued)

The following unaudited pro forma consolidated results of operations have been prepared as if the acquisition of Applied Nanotech had occurred as of the beginning of the following periods:

	Nine Months Ended September 30, 2014	Nine Months Ended September 30, 2013
Net Revenues	\$ 9,523,149	\$ 9,894,689
Net Loss	\$ (2,157,791)	\$ (2,613,950)
Net Loss per Share	\$ (0.01)	\$ (0.01)

Pro forma data does not purport to be indicative of the results that would have been obtained had these events actually occurred at the beginning of the periods presented and is not intended to be a projection of future results.

NOTE 4 – INVENTORY

At September 30, 2014 and December 31, 2013, inventory consisted of the following:

	September 30, 2014	December 31, 2013
Raw materials	\$ 939,478	\$ 1,055,667
Finished goods	610,620	696,461
	1,550,098	1,752,128
Less: reserve for obsolete inventory	(294,208)	(267,672)
Inventory, net	\$ 1,255,890	\$ 1,484,456

NOTE 5 – BANK LOANS AND LINES OF REVOLVING CREDIT FACILITY

In April 2014, Nanofilm entered into a \$1,500,000 revolving credit line agreement (the “Revolving Note”) with Mackinac Commercial Credit, LLC. (the “Lender”). The unpaid principal balance of this Revolving Note is payable on demand, is secured by all of Nanofilm’s assets, and bears interest computed at a rate of interest (the “Effective Rate”) which is equal to 7.0% above the LIBOR Rate, as defined, payable monthly. Nanofilm shall pay to Lender a late charge of 5.0% of any monthly payment not received by Lender within 10 calendar days after said payment is due. The Company, at any time or from time to time upon three business days’ written notice to Lender, prepay the Note in whole provided that (i) if Borrower prepays the Revolving Note in full and terminates the Revolving Note after the date hereof, or (ii) Lender, after the date hereof, terminates the Revolving Note after default, then Borrower shall pay, in addition to all other amounts due to Lender and/or paid by the Company, a termination premium equal to 2.0% of the maximum loan amount. Nanofilm used \$988,000 of proceeds of the Revolving Note to payoff certain other indebtedness of the Company to its then Lender. Without the Lender’s consent, so long as the obligation remains outstanding, in addition to other covenants as defined in the Revolving Note, Nanofilm shall not a) merge or consolidate with any other company, except for the Combination and shall not suffer a change of control; b) make an capital expenditures, as defined, materially affecting the business; c) declare of pay cash dividends upon any of its stock, or distribute any of its property, make any loans, make investments, redeem, retire or acquire any of its stock, d) become liable for the indebtedness of anyone else, as defined, and e) incur indebtedness, other than trade payables.

At September 30, 2014, the Company had \$0 in borrowings outstanding under the Revolving Note with \$1,500,000 available for borrowing under such note. The weighted average interest rate during the period was approximately 6.8%.

NOTE 6 – CONVERTIBLE NOTES PAYABLE

In connection with the reverse merger, the Company assumed certain 8% convertible notes payable dated from April 2014 to August 2014, with an aggregate principal amount of \$50,000, which are due on July 15, 2015. These Notes will automatically convert into shares of Class A Common Stock of PEN Inc. on the later of (i) the day 180 days after the Note dates which range from April to August 2014, (ii) the day 60 days after the closing under the Merger & Exchange Agreement which closed effective August 27, 2014, or (iii) October 15, 2014. Principal and accrued interest will be converted into shares using a conversion price equal to 75% of the average closing price of the Company’s Class A Common Stock for the twenty trading days immediately preceding the conversion date.

PEN INC. AND SUBSIDIARIES
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NOTE 6 – CONVERTIBLE NOTES PAYABLE (continued)

Pursuant to ASC Topic 470-20-525 (Debt with conversion and other options), since these convertible notes had fixed conversion percentages of 75% of the stock price, the Company determined it had a fixed maximum amounts that can be settled for the debt. Accordingly, the Company accrued a put premium amount aggregating \$16,666 since these convertible notes are convertible for the conversion premium. At September 30, 2014, principal amount due under these convertible notes amounted to \$50,000.

At September 30, 2014 and December 31, 2013, aggregate convertible notes payable consisted of the following:

	September 30, 2014	December 31, 2013
Convertible notes payable	\$ 50,000	\$ -
Put premium	16,666	-
Total	\$ 66,666	\$ -

NOTE 7 – RELATED PARTY TRANSACTIONS

Sales to related party

During the three and nine months ended September 30, 2014 and 2013, the Company engaged in certain sales transactions with a company which is a beneficial shareholder and related to a director of the Company. These transactions were conducted during the normal course of the Company's business on terms consistent with similar transactions with unrelated parties. Sales to the related party totaled \$40,810 and \$44,353 for the three months ended September 30, 2014 and 2013, respectively. Sales to the related party totaled \$147,862 and \$174,626 for the nine months ended September 30, 2014 and 2013, respectively. Accounts receivable from the related party totaled \$9,112 and \$17,224 at September 30, 2014 and December 31, 2013, respectively.

Convertible notes payable – related parties

In connection with the reverse merger, the Company assumed certain 8% convertible notes payable from related parties dated from April 2014 to August 2014, with an aggregate principal amount of \$60,000, which are due on the Note dates which range from April to May 2014. These Notes will automatically convert into shares of Class A Common Stock of PEN Inc. on the later of (i) the day 180 days after the Note dates which range from April to August 2014, (ii) the day 60 days after the closing under the Merger & Exchange Agreement which closed effective August 27, 2014, or (iii) October 15, 2014. Principal and accrued interest will be converted into shares using a conversion price equal to 75% of the average closing price of the Company's Class A Common Stock for the twenty trading days immediately preceding the conversion date.

Pursuant to ASC Topic 470-20-525 (Debt with conversion and other options), since these convertible notes had fixed conversion percentages of 75% of the stock price, the Company determined it had a fixed maximum amounts that can be settled for the debt. Accordingly, the Company accrued a put premium amount aggregating \$20,001 since these convertible notes are convertible for the conversion premium. At September 30, 2014, principal amount due under these convertible notes amounted to \$60,000.

At September 30, 2014 and December 31, 2013, aggregate convertible notes payable to related parties consisted of the following:

	September 30, 2014	December 31, 2013
Convertible notes payable – related parties	\$ 60,000	\$ -
Put premium	20,001	-
Total	\$ 80,001	\$ -

Other

A board member is a principal in an investment advisory firm which the Company paid approximately \$107,000 and \$197,000 in fees and expenses during the three and nine months ended September 30, 2014.

PEN INC. AND SUBSIDIARIES
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NOTE 8 – STOCKHOLDERS' EQUITY

Description of Preferred and Common Stock

The Company is authorized to issue up to a total of 1,820,000,000 shares of capital stock, 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**”).

Preferred Stock

The preferred stock may be issued in one or more series. The Company’s board of directors are 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.

Common Stock – General

The rights of each share of Class A common stock, each share of Class B common stock and each share of Class Z common stock are the same with respect to dividends, distributions and rights upon liquidation.

Class A Common Stock

Holders of the Class A common stock are entitled to one vote per share in the election of directors and other matters submitted to a vote of the stockholders.

Class B Common Stock

Conversion Rights. Shares of Class B common stock can be converted, one-for-one, into shares of Class A common stock at any time at the option of the holder. Shares of Class B common stock will automatically be converted into shares of Class A common stock if the shares of Class B common stock are not owned by the Company’s chief executive officer, his spouse, or their descendants and their spouses, or by entities or trusts wholly-owned by them.

Voting Rights Holders of PEN Class B common stock are entitled to 100 votes per share in the election of directors and other matters submitted to a vote of the stockholders.

Class Z Common Stock

Conversion Rights. Shares of Class Z common stock can be converted, one-for-one, into shares of Class A common stock at any time at the option of the holder. Shares of Class Z common stock will automatically be converted into shares of Class A common stock if the shares of Class Z common stock are not owned by Zeiss or an entity wholly owned by the ultimate parent of Zeiss. In addition, if Zeiss and other permitted holders of shares of Class Z common stock sell or convert more than one-half of the shares of Class Z common stock that are received in the Combination, all shares of Class Z common stock will automatically convert into Class A common stock.

Voting Rights. Holders of PEN Class Z common stock do not vote in the election of directors or otherwise, but they do have the right to designate a director to the PEN Board, have anti-dilution rights described below and have consent rights with respect to certain amendments to PEN’s certificate of incorporation.

Other Rights. The Class Z common stock has anti-dilutive rights that, subject to limited exceptions, permit holders of Class Z common stock to purchase additional shares or equity rights issued by PEN (on the same terms as made available to third parties by PEN) to maintain their economic ownership percentage. The holders of Class Z common stock are also 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.

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NOTE 8 – STOCKHOLDERS' EQUITY (continued)

Issuances of Common Stock

On the Effective Date, the pre-merger shares of Nanoholdings, Inc. were exchanged for an aggregate of 27,670,187 shares of Class A common stock of PEN and 250,698,105 shares of Class B common stock of PEN. Additionally, the Class Z member interests of Nanofilm (the non-controlling interests) were exchanged for 47,273,470 Class Z shares of PEN. The effect of these exchanges is reflected retroactively in the accompanying consolidated financial statements for all periods presented.

Immediately prior to the Effective Date, outstanding convertible notes of Applied Nanotech were converted into common stock, for which an aggregate of 32,379,288 shares of PEN Class A common stock were issued, and 11,164,620 shares of PEN Class A common stock were issued to directors of the Company in payment of accrued fees. PEN also issued 1,500,000 shares of Class A common stock in satisfaction of a note held by the former CFO of the Company. Accordingly, immediately prior the Effective Date, the Company had 203,363,059 PEN Class A shares outstanding. These 203,363,509 Class A common shares are reflected as shares deemed issued as merger consideration in the accompanying consolidated financial statements.

On September 1, 2014, the Company issued 1,200,000 shares of Class A common stock to the former chief financial officer of Applied Nanotech pursuant to a Stock Grant Agreement dated in February 2014. These shares were valued on the measurement date of September 1, 2014 of \$0.0686 per shares for a total value of \$82,320. For the three and nine months ended September 30, 2014, in connection with the issuance of these shares, the Company recorded stock-based compensation of \$82,320 and \$82,320, respectively.

On September 24, 2014, the Company issued 83,610 shares of Class A common stock and 33,444 shares of Class B common stock to directors for services rendered. These shares are valued were valued on the date of grant of September 24 2014 of \$0.0598 per shares for a total value of \$7,000. For the three and nine months ended September 30, 2014, in connection with the issuance of these shares, the Company recorded stock- based compensation of \$7,000 and \$7,000, respectively.

Contingently issuable Class A common shares

On August 27, 2014, the Company entered into a Restricted Stock Agreement with Dr. Zvi Yaniv, the former Chief Operating Officer and President, of Applied Nanotech, and a current employee of the Company granting Dr. Yaniv 6,800,000 shares of Class A common stock, subject to forfeiture. All these shares become vested and not subject to forfeiture on the earlier of a change of control of us, Dr. Yaniv's death, or if more than 180 days after closing, the average trading price of the shares during a measurement period of ten consecutive trading days reaches certain price thresholds. At a \$0.10 price, one million of the shares vest, with additional tranches of one million shares vesting if the price reaches \$0.15, \$0.20, \$0.25 and \$0.30. The last 1.8 million shares vest at a \$0.35 price threshold. Any shares that have not vested five years after the Effective Date will be forfeited. We also entered into a Piggyback Registration Rights Agreement that will allow Dr. Yaniv, subject to other customary terms and conditions, to register shares that are no longer subject to forfeiture if we are registering our shares. Pursuant to ASC 718-10 and related subsections, these shares were valued on the date of grant of August 27, 2014 at \$0.0729 per shares for a total value of \$492,720. The Company estimates the fair value of the awards with market conditions using a Binomial simulation, which utilizes several assumptions including the risk-free interest rate, the volatility of the Company's stock and the exercise behavior of award recipients. The grant-date fair value of \$492,720 of the awards will be recognized over the requisite service period of 3 years, which represents the derived service period for the stock grant as determined by the Binomial simulation. For the three and nine months ended September 30, 2014, in connection with the amortization of the fair value of this stock grant, the Company recorded stock- based compensation of \$13,770 and \$13,770, respectively.

In connection with a Stock Grant Agreement with the former chief financial officer of Applied Nanotech dated in February 18, 2014, the Company shall issue 1,200,000 shares of Class A common stock on or around February 27, 2015 and 889,580 shares on January 31, 2015. These shares were valued on the date of grant of February 18, 2014 at \$0.059 per shares for a total value of \$123,285 which is included in accrued expenses on the accompanying consolidated balance sheet.

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NOTE 9 – CONCENTRATIONS

Concentrations of credit risk

Financial instruments that potentially subject the Company to concentrations of credit risk consist primarily of trade accounts receivable and cash deposits and investments in cash equivalent instruments.

The Company places its cash in banks at levels that, at times, may exceed federally insured limits. There were no balances in excess of FDIC insured levels as of September 30, 2014 and December 31, 2013. The Company has not experienced any losses in such accounts through June 30, 2014.

Customer concentrations

Customer concentrations for the three and nine months ended September 30, 2014 and 2013 are as follows:

	Sales			
	For the three months ended September 30,		For the nine months ended September 30,	
	2014	2013	2014	2013
Customer A	28%	28%	24%	31%
Customer B	0%	22%	23%	12%
Customer C	10%	9%	11%	13%
Total	38%	59%	58%	56%

	Accounts Receivable	
	As of September 30, 2014	As of December 31, 2013
	Customer A	53%
Customer B	13%	32%
Customer C	11%	8%
Total	77%	75%

A reduction in sales from or loss of such customers would have a material adverse effect on our consolidated results of operations and financial condition.

Geographic concentrations of sales

For the nine months ended September 30, 2014 and 2013, total sales in the United States represent 89% and 85% of total sales, respectively. No other geographical area accounting for more than 10% of total sales during the nine months ended September 30, 2014 and 2013.

Vendor concentrations

For the nine months ended September 30, 2014, the Company purchased 51% of its inventory from four suppliers (24%, 9%, 9% and 9%, respectively). For the nine months ended September 30, 2013, the Company purchased 34% of its inventory from two suppliers (24% and 10%, respectively).

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NOTE 10 – EQUITY CREDITS

During 1997, Nano established *The Equity Credit Incentive Program*. This program enables select employees the opportunity to purchase equity credits that increase in value based upon an increase in Nano's revenue over a base year of 1996. Eligible credits can be redeemed after two years at the equity credit value for that year. Under certain circumstances, the equity credits are convertible into Nano equity on a one-for-one basis.

The maximum number of credits available for issuance is 385,000. In the nine months ended September 30, 2014, no equity credits were forfeited and no units were redeemed. As of September 30, 2014, 77,700 equity credits were issued and outstanding with an approximate value of \$0.3228 per credit and, as of December 31, 2013, 77,700 equity credits were issued and outstanding with an approximate value of \$0.3228 per credit. A long-term employee receivable of \$0 and \$35,880 is included in other assets at September 30, 2014 and December 31, 2013, respectively. The receivable relates to the purchases of 44,250 and 99,000 equity credits in 2009 and 2008, respectively, whereby participants are guaranteed no less than their purchase price of \$0.3206 and \$0.2817 per credit, respectively, a portion of which were forfeited during 2012 and 2011. In August 2014, the remaining \$13,705 receivable was collected from the employees. At September 30, 2014 and December 31, 2013, \$25,079 and \$25,079 respectively, was accrued representing the redemption value associated with the equity credits outstanding for both years. For the nine months ended September 30, 2014 and 2013, a gain (loss) from the change in value of the equity credits was \$0 and \$(167), respectively, and is included in operating expenses on the accompanying statements of operations. Under the terms of the Plan, due to the August 2014 merger, the Company has 6 months from the Effective Date in which to allow the equity credit participants the option to convert the equity credits into Class A common shares of PEN Inc.

NOTE 11 – STOCK APPRECIATION PLAN

From June 1, 1988, until December 31, 1997, when the plan was terminated, Nanofilm had in place a Stock Appreciation Rights Plan A (the "Plan"), intended to provide employees, directors, members of a technical advisory board and certain independent contractors selected by the Board with equity-like participation in the growth of Nanofilm. The maximum number of stock appreciation rights that could be granted by the Board was 1,000,000.

There were 235,782 fully vested stock appreciation rights ("SARS") outstanding under the terms of the Plan at September 30, 2014 and December 31, 2013. The SARS unit value is based on the book value of the Company as of the last fiscal year end multiplied by a SARS multiplier stipulated in the SARS plan. However, in the event of an initial public offering ("IPO") of Nano, the SARS are redeemable based on a value equal to offering price of the stock in an IPO times the total outstanding shares of the Company just subsequent to the completion of the IPO, multiplied by the SARS multiplier. The SARS multiplier is to be adjusted, as the Board determines, to reflect changes in the capitalization of Nanofilm. Generally, the SARS are redeemable in cash, at their then fair value as computed pursuant to the plan, in the event of termination of employment or business relationship, death, permanent and total disability, or sale of Nanofilm (as defined). Upon an IPO, SARS are to be redeemed by applying 70% of the redemption value to purchase common shares, with the remaining 30% being distributed in cash to the participant.

The August 2014 Combination does not qualify as an IPO under the Plan; however, a future underwritten registered offering may qualify.

The accrued redemption value associated with the stock appreciation rights amounted to \$58,999 and \$58,999, at September 30, 2014 and December 31, 2013, respectively. If the Company completes an IPO, the value of SARS calculated based on the IPO formula may cause a material increase in the value of the liability.

NOTE 12 – SEGMENT REPORTING

The Company's principal operating segments coincide with the types of products to be sold. The products from which revenues are derived are consistent with the reporting structure of the Company's internal organization. The Company's two reportable segments for the nine months ended September 30, 2014 were i) the Nanofilm Segment and ii) the Research and Development Segment. For the 2013 periods, the Company only operated in the Nanofilm Segment. The Company's chief operating decision-maker has been identified as the Chairman and CEO, who reviews operating results to make decisions about allocating resources and assessing performance for the entire Company. Segment information is presented based upon the Company's management organization structure as of September 30, 2014 and the distinctive nature of each segment. Future changes to this internal financial structure may result in changes to the reportable segments disclosed. There are no inter-segment revenue transactions and, therefore, revenues are only to external customers. As the Company primarily generates its revenues from customers in the United States, no geographical segments are presented.

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 12 – SEGMENT REPORTING (continued)

Segment operating profit is determined based upon internal performance measures used by the chief operating decision-maker. The Company derives the segment results from its internal management reporting system. The accounting policies the Company uses to derive reportable segment results are the same as those used for external reporting purposes. Management measures the performance of each reportable segment based upon several metrics, including net revenues, gross profit and operating income (loss). Management uses these results to evaluate the performance of, and to assign resources to, each of the reportable segments. The Company manages certain operating expenses separately at the corporate level and does not allocate such expenses to the segments. Segment income from operations excludes interest income/expense and other income or expenses and income taxes according to how a particular reportable segment's management is measured. Management does not consider impairment charges, and unallocated costs in measuring the performance of the reportable segments.

Segment information available with respect to these reportable business segments for the three and nine months ended September 30, 2014 and 2013 was as follows:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Revenues:				
Nanofilm segment	\$ 1,721,307	\$ 2,435,426	\$ 7,360,680	\$ 6,703,993
Research and development segment	233,414	-	233,414	-
Total segment and consolidated revenues	<u>1,954,721</u>	<u>2,435,426</u>	<u>7,594,094</u>	<u>6,703,993</u>
Gross profit:				
Nanofilm segment	591,105	911,339	3,398,810	2,555,506
Research and development segment	22,857	-	22,857	-
Total segment and consolidated gross profit	<u>613,962</u>	<u>911,339</u>	<u>3,421,667</u>	<u>2,555,506</u>
Income (loss) from operations				
Nanofilm segment	\$ (355,391)	\$ 15,501	\$ 462,952	\$ (163,304)
Research and development segment	(11,370)	-	(11,370)	-
Total segment income (loss)	<u>(366,761)</u>	<u>15,501</u>	<u>451,582</u>	<u>(163,304)</u>
Unallocated costs	(281,960)	-	(281,960)	-
Total consolidated income (loss) from operations	<u>\$ (648,721)</u>	<u>\$ 15,501</u>	<u>\$ 169,622</u>	<u>\$ (163,304)</u>
Depreciation and amortization:				
Nanofilm segment	\$ 82,644	\$ 55,071	\$ 167,010	\$ 165,213
Research and development segment	4,492	-	4,492	-
Total segment depreciation and amortization	<u>87,136</u>	<u>55,071</u>	<u>171,502</u>	<u>165,213</u>
Unallocated depreciation	-	-	-	-
Total consolidated depreciation and amortization	<u>87,136</u>	<u>55,071</u>	<u>171,502</u>	<u>165,213</u>
Capital additions:				
Nanofilm segment	\$ 136,981	\$ 7,685	\$ 144,039	\$ 37,796
Research and development segment	-	-	-	-
Total segment capital additions	<u>136,981</u>	<u>7,685</u>	<u>144,039</u>	<u>37,796</u>
Unallocated capital additions	-	-	-	-
Total consolidated capital additions	<u>\$ 136,981</u>	<u>\$ 7,685</u>	<u>\$ 144,039</u>	<u>\$ 37,796</u>

PEN INC. AND SUBSIDIARIES
CONDENSED NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
SEPTEMBER 30, 2014
(UNAUDITED)

NOTE 12 – SEGMENT REPORTING (continued)

	<u>September 30, 2014</u>	<u>December 31, 2013</u>
Segment tangible assets:		
Nanofilm segment	\$ 690,194	\$ 672,704
Research and development segment	<u>113,082</u>	<u>-</u>
Total consolidated tangible assets	<u>\$ 803,276</u>	<u>\$ 672,704</u>

The Company does not allocate any general and administrative expenses, other income or income taxes to its reportable segments because these activities are managed at a corporate level.

NOTE 13 – SUBSEQUENT EVENTS

On October 26, 2014, the Company issued 1,330,998 shares of Class A common stock and 242,036 shares of Class B common stock upon the automatic conversion in accordance with their terms of \$50,000 of aggregate principal amount of related party convertible promissory notes (See Note 7), \$15,000 of principal amount of a convertible promissory note (See Note 6), and accrued interest of \$2,798. The notes converted based on 75% of the average closing price of the Company's common shares for the 20 day trading period ending on the last trading day prior to October 26, 2014 resulting in a conversion price of \$0.0431.

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. PEN is the result of a business combination (the "Combination"), that closed at the end of August, 2014 (and reported in an 8K filed on September 2, 2014).

OVERVIEW

PEN's business is the marketing and sale of products enabled by nanotechnology. We develop and sell products based on our strong portfolio of intellectual property. Our current products are a portfolio of nano-layer coatings, nano-based cleaners, printable inks and pastes, gas detectors and thermal management materials.

PEN applies knowledge derived from our ongoing nanotechnology research and development to control and manipulate materials at the molecular level to solve everyday problems for customers in the optical, transportation, military, sports, and safety industries. Our primary commercial products center on our customized eye care glass cleaning and de-fogging products, precision mold release treatments, stay-clean surface treatments for ceramic surfaces, and scuff-resistant treatments for commercial dinnerware. These products are marketed globally. We are also engaged in research and development under contract with the government and others with the goal of developing new and improved products using our proprietary technology, and also sell printable inks and pastes, gas detectors, and thermal management materials.

Following completion of the Combination, the Company has reduced the historical net losses and negative cash flow from Applied Nanotech's operations and has seen net income from NanoHolding and its subsidiary, Nanofilm. Excluding acquisition costs associated with the Combination of approximately \$235,000, PEN had pro forma net income for the nine months ended September 30, 2014 of approximately \$329,000.

Our principal operating segments coincide with the types of products to be sold. The products from which revenues are derived are consistent with the reporting structure of the Company's internal organization. The Company's two reportable segments for the nine months ended September 30, 2014 were (i) the Nanofilm Segment and (ii) the Research and Development Segment. For the 2013 periods, the Company is NanoHolding Inc., the accounting acquirer and it only operated in the Nanofilm Segment.

Nanofilm segment

Revenue is based on the successful development of products and technologies using proprietary intellectual property and the sale of liquid products, and wet and dry towelettes, based on these technologies. Our goal continues to be to create segment leading brands through sales of high quality consumer products, and by developing and producing customized formulas for sale to strategic, industrial partners to be incorporated into their customer's products. Whenever feasible, we seek to be actively involved in the manufacture of formulas in order to produce reliable, consistent quality for the products that we and our commercial partners bring to the marketplace.

Our main products are:

- packaged products for retail sale to consumers for eyeglass and sunglass lens cleaning and conditioning,
- packaged products for retail sale to consumers for antifog and conditioning of masks and goggles,
- packaged products for sale to the military for safety anti-fogging and conditioning of lenses, masks, head gear and other applications such as head's up displays,
- liquids for sale to industrial customers who resell to those who need porcelain coatings for restaurant dinnerware, and
- liquids for sale to suppliers to local governments and agencies for coatings for porcelain and other applications in mass transportation.

In addition, we have developed a series of formulations used in the manufacture of precision casting and decorative architectural glass products which provides a barrier to soiling, helping keep decorative art-glass clean longer and making it easier to clean.

We are in development of a new long-lasting, anti-bacterial formula for use in several of our existing products. Use of this formulation has been shown to prevent bacteria growth, in laboratory testing.

Research and development segment

This segment focuses its efforts on research and development of proof of concepts and prototypes for proposed PEN products and on performing research and development services to government and private entities. We are developing technologies that generally fall under one of three technology platforms. These platforms are:

- Nanosensor technology;
- Nanocomposites, based on carbon nanotube composites; and
- Nanoelectronics applications.

Our research and development efforts are currently focused in these and emerging areas.

RECENT DEVELOPMENTS

On August 27, 2014 (the “Effective Date”), Applied Nanotech Holdings, Inc., a Texas corporation (the “Applied Nanotech”), together with its wholly owned direct subsidiaries, PEN and NanoMerger Sub Inc., a Delaware corporation (“Merger Sub”), completed a combination (the “Combination”) with NanoHolding Inc. (“Nano”). The Combination included three parts: (i) a redomestication of Applied Nanotech from Texas to Delaware by way of Applied Nanotech’s merger into PEN, (ii) a subsequent merger of Nano into Merger Sub, with Merger Sub (n/k/a Nanofilm Holding Inc.) the surviving entity, and (iii) a subsequent exchange of 100% of Carl Zeiss, Inc.’s interest in Nanofilm Ltd., Nano’s wholly owned subsidiary (“Nanofilm”), for stock in PEN. Nanofilm is a company formed under the laws of the Ohio on June 14, 1995 as a limited liability company.

As part of the Combination, outstanding convertible notes of Applied Nanotech were converted into common stock, for which an aggregate of 32,379,288 shares of PEN Class A common stock were issued, and 11,164,620 shares of PEN Class A common stock were issued to directors of the Company in payment of accrued fees. PEN also issued 1,500,000 shares of Class A common stock in satisfaction of a note held by the former CFO of the Company. Accordingly, immediately prior the Effective Date, the Company had 203,363,059 PEN Class A shares outstanding.

On the Effective Date, the pre-merger shares of Nanoholdings, Inc. were exchanged for an aggregate of 27,670,187 shares of Class A common stock of PEN and 250,698,105 shares of Class B common stock of PEN. Additionally, the Class Z member interests of Nanofilm (the non-controlling interests) were exchanged for 47,273,470 Class Z shares of PEN. The effect of these exchanges is reflected retroactively in the accompanying unaudited consolidated financial statements for all periods presented.

On the Effective Date, the merger was accounted for as a reverse merger and recapitalization of Nano since the shareholders of Nano and its subsidiary, the legal acquiree, owned 61.6% of the aggregate outstanding common shares of PEN immediately following the completion of the merger, had its current officers assume all corporate and day-to-day management offices of PEN, including chief executive officer and chief financial officer, and board members designated by Nano are a majority of the board after the Combination. Accordingly, Nano was deemed to be the accounting acquirer in the transaction and, consequently, the transaction is treated as a reverse merger with Nano as the acquiring company. Accordingly, the assets and liabilities and the historical operations that will be reflected in the PEN consolidated financial statements after the Effective Date are those of Nano and Subsidiary and are recorded at the historical cost basis of Nano. Applied Nanotech’s assets and liabilities are recorded at their fair values as of the effective date and the results of operations of Applied Nanotech are consolidated with results of operations of Nano starting on the Effective Date.

PEN is focused on the development of new products using the strong intellectual property portfolio acquired in the Combination. The Nanofilm segment will continue to grow its product sales and develop its product offerings. The Research and Development segment is working on product prototypes for new product offerings and is also continues to perform research and development for a fee from government and private customers.

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.

RESULTS OF OPERATIONS

The following comparative analysis on results of operations was based primarily on the comparative consolidated financial statements, footnotes and related information for the periods identified below and should be read in conjunction with the consolidated financial statements and the notes to those statements that are included elsewhere in this report. The results discussed below are for the three and nine months ended September 30, 2014 and 2013.

Substantially all of our results of operations relate to our Nanofilm segment since the results of operations related to our research and development segment are only included in our results of operations for the period from August 27, 2014, (the effective date of the merger) to September 30, 2014.

The acquired research and development segment has a history of net losses and negative cash flow from operations. Since the merger date, we have made efforts to cut costs and plan on achieve positive or break-even cash flow from operations in that segment by the end of 2014.

Comparison of Results of Operations for the Three Months Ended September 30, 2014 and 2013 and the Nine Months Ended September 30, 2014 and 2013

Sales:

For the three and nine months ended September 30, 2014 and 2013, sales consisted of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Sales:				
Nanofilm segment	\$ 1,721,307	\$ 2,435,426	\$ 7,360,680	\$ 6,703,993
Research and development segment	233,414	-	233,414	-
Total segment and consolidated sales	\$ 1,954,721	\$ 2,435,426	\$ 7,594,094	\$ 6,703,993

For the three months ended September 30, 2014, sales decreased by \$480,705 or 19.7% as compared to the three months ended September 30, 2013. For the nine months ended September 30, 2014, sales increased by \$890,101 or 13.3% as compared to the nine months ended September 30, 2013.

For the nine months ended September 30, 2014, sales from the Nanofilm segment increased by \$656,687 or 9.8% as compared to the nine months ended September 30, 2013 and was primarily attributable to delays that occurred in 2013 in connection with production of our anti-fog cloths. Once the anti-fog cloths were available for shipment, sales of the anti-fog cloths increased starting in July 2013. For the three months ended September 30, 2014, sales from our Nanofilm segment decreased by \$714,119 or 29.3% as compared to the three months ended September 30, 2013 and attributable to a decrease on sales of our anti-fog cloths in 2014. We saw strong demand in the third and fourth quarter of 2013 and during the first half of 2014 as we were able to resume shipment of the anti-fog cloths, but saw lower demand in the third quarter of 2014.

For the three and nine months ended September 30, 2014, sales from our research and development segment amounted to \$233,414 and \$233,414, respectively, and represents sales from August 27, 2014 (the date of Combination) to September 30, 2014.

Cost of sales.

Cost of sales includes the cost of raw materials, labor, depreciation, freight out, research and development costs related to government and private research contracts in our Research and Development segment, and other overhead costs.

For the three months ended September 30, 2014, cost of sales amounted to \$1,340,759 as compared to \$1,524,087 for the three months ended September 30, 2013, a decrease of \$183,328 or 12.0% attributable to the anti-fog product sales differences described above. For the nine months ended September 30, 2014, cost of sales amounted to \$4,172,427 as compared to \$4,148,487 for the nine months ended September 30, 2013, an increase of \$23,940 or less than 1.0%.

Gross profit and gross margin.

For the three months ended September 30, 2014, gross profit amounted to \$613,962 as compared to \$911,339 for the three months ended September 30, 2013, a decrease of \$297,377 or 32.6%. For the three months ended September 30, 2014 and 2013, gross margins were 31.4% and 37.4%, respectively. For the nine months ended September 30, 2014, gross profit amounted to \$3,421,667 as compared to \$2,555,506 for the nine months ended September 30, 2013, an increase of \$866,161 or 33.9%. For the nine months ended September 30, 2014 and 2013, gross margins were 45.1% and 38.1%, respectively.

Gross profit and gross margin by segment is as follows:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2014	%	2013	%	2014	%	2013	%
Gross profit:								
Nanofilm segment *	591,105	34.3%	911,339	37.4%	3,398,810	46.2%	2,555,506	38.1%
Research and development segment *	22,857	9.8%	-	-	22,857	9.8%	-	-
Total gross profit	613,962	31.4%	911,339	37.4%	3,421,667	45.1%	2,555,506	38.1%

* Gross margin % based on respective segments sales.

For the three months ended September 30, 2014, the decrease in gross margins from the Nanofilm segment as compared to the comparable 2013 period was attributable to decreased sales in 2014 of high margin anti-fog products because of the production delays that had depressed anti-fog sales in 2013. For the nine months ended September 30, 2014, the increase in gross margins from the Nanofilm segment as compared to the comparable 2013 period was attributable to increased sales and a change in product mix to products with higher gross margins.

Operating expenses:

For the three months ended September 30, 2014, operating expenses amounted to \$1,262,683 as compared to \$895,838 for the three months ended September 30, 2013, an increase of \$366,845 or 40.9%. For the nine months ended September 30, 2014, operating expenses amounted to \$3,252,045 as compared to \$2,718,810 for the nine months ended September 30, 2013, an increase of \$533,235 or 19.6%. For the three and nine months ended September 30, 2014 and 2013, operating expenses consisted of the following:

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2014	2013	2014	2013
Selling and marketing expenses	\$ 42,033	\$ 57,878	\$ 186,062	\$ 201,108
Salaries, wages and contract labor	574,213	313,733	1,448,933	961,106
Research and development	131,371	267,135	426,740	727,021
Professional fees	249,503	81,998	568,225	272,511
General and administrative expenses	265,563	175,094	622,085	557,064
Total	\$ 1,262,683	\$ 895,838	\$ 3,252,045	\$ 2,718,810

- For the three months ended September 30, 2014, sales and marketing expenses decreased by \$15,845 or 27.3% as compared to the three months ended September 30, 2013 and for the nine months ended September 30, 2014 decreased by \$15,046 or 7.5% compared to the nine months ended September 30, 2013.
- For the three months ended September 30, 2014, salaries, wages and contract services increased by \$260,480, or 83.0%, as compared to the three months ended September 30, 2013 and for the nine months ended September 30, 2014 increased by \$487,827 or 50.8%, as compared to the nine months ended September 30, 2013. These increases were primarily attributable to an increase in salaries of approximately \$140,000 related to the acquisition of Applied Nanotech and planned expenditures for market development activities and increased headcount. We expect that salaries, wages and contract services will increase primarily due to continued emphasis on planned market development programs for the balance of 2014.
- For the three months ended September 30, 2014, research and development costs decreased by \$135,764 or 50.82%, as compared to the three months ended September 30, 2013 and for the nine months ended September 30, 2014 decreased by \$300,281, or 41.3%, as compared to the nine months ended September 30, 2013. The decrease during the periods was attributable to cost cutting measure and a decrease in costs associated with the reformulation of the solution used in the anti-fog cloths and solutions.
- For the three months ended September 30, 2014, professional fees increased by \$167,505 or 204.3%, as compared to the three months ended September 30, 2013 and for the nine months ended September 30, 2014 increased by \$295,714 or 108.5%, as compared to the nine months ended September 30, 2013. For the three and nine months ended September 30, 2014, the increases were attributable to an increase in accounting fees, legal fees, and an increase in other professional fees of approximately \$123,000 and \$235,000 related to the cost of the Combination, respectively.

- For the three months ended September 30, 2014, general and administrative expenses increased by \$90,469 or 51.7% as compared to the three months ended September 30, 2013 and for the nine months ended September 30, 2014 increased by \$65,021 or 11.7%. The increase was primarily attributable to inclusion of the costs and expenses of the research and development segment since the merger date of August 27, 2014 of approximately \$90,100.

Income (loss) from operations.

As a result of the factors described above, for the three months ended September 30, 2014, loss from operations amounted to \$(648,721) as compared to income from operations of \$15,501 for the three months ended September 30, 2013, a decrease of \$664,222. For the nine months ended September 30, 2014, income from operations amounted to \$169,622 as compared to a loss from operations of \$(163,304) for the nine months ended September 30, 2013, an increase of \$332,926.

Other income (expense).

Other income (expense) includes interest expense, other income, net and interest income. For the three months ended September 30, 2014, total other income amounted to \$10,318 as compared to other income of \$15,298, a decrease of \$4,980 or 32.6%. This decrease was attributable to a decrease in other income of \$18,689 offset by a decrease in interest expense of \$13,715. For the nine months ended September 30, 2014, total other expenses amounted to \$19,230 as compared to other expenses of \$34,338, a decrease of \$15,108 or 44.0%. This decrease was attributable to a decrease in interest expenses of \$52,821 offset by a decrease in other income of \$37,678.

Income taxes.

For the three and nine months ended September 30, 2014, income tax (expense) benefit amounted to \$159,726 and \$(55,901), respectively, as compared to \$0 for each of the three months ended September 30, 2013. Beginning in late February 2014, Nano became subject to federal and state corporate income taxes and the expense in the nine months ended September 30, 2014 represents the period from that late February 2014 date through the date of the Combination on August 27, 2014. The income tax benefit of \$159,726 for the three months ended September was attributable to the reversal of previously accrued income taxes.

Net income (loss) and net income (loss) attributable to PEN Inc.

As a result of the foregoing, for the three months ended September 30, 2014, net loss amounted to \$(478,677) as compared to net income of \$30,799 for the three months ended September 30, 2013, a decrease of \$509,476. For the nine months ended September 30, 2014, net income amounted to \$94,491 as compared to a net loss of \$(197,642), an increase of \$292,133.

Our historical results of operations include an allocation of the net income (loss) of Nanofilm, Ltd. to the 14.5% non-controlling interest of Nanofilm, Ltd. up to the effective date of the Combination when the holder of that non-controlling interest exchanged its membership interest for shares of PEN Inc. resulting in Nanofilm, Ltd. becoming a wholly-owned subsidiary of the Company. For the three months ended September 30, 2014 and 2013, net income (loss) attributable to former non-controlling interest amounted to \$(29,790) and \$4,478, respectively. For the nine months ended September 30, 2014 and 2013, net income (loss) attributable to former non-controlling interest amounted to \$53,418 and (28,692), respectively.

For the three months ended September 30, 2014 and 2013, net income (loss) attributable to PEN Inc. amounted to \$(448,887) and \$26,321 or \$0.00 per share (basic and diluted) and \$0.00 per shares (basic and diluted), respectively. For the nine months ended September 30, 2014 and 2013, net income (loss) attributable to PEN Inc. amounted to \$41,073 and \$(168,950) or \$0.00 per share (basic and diluted) and \$0.00 per shares (basic and diluted), respectively.

LIQUIDITY AND CAPITAL RESOURCES

Liquidity is the ability of an enterprise to generate adequate amounts of cash to meet its needs for cash requirements. We had working capital of \$216,504 and \$254,429 of cash as of September 30, 2014 and working capital of \$1,908,018 and \$100,367 of cash as of December 31, 2013.

The following table sets forth a summary of changes in our working capital from December 31, 2013 to September 30, 2014:

	September 30, 2014	December 31, 2013	December 31, 2013 to September 30, 2014	
			Change	Percentage Change
Working capital:				
Total current assets	\$ 3,035,716	\$ 3,234,068	\$ (198,352)	(6.1)%
Total current liabilities	<u>2,819,212</u>	<u>1,326,050</u>	<u>(1,493,162)</u>	<u>112.6%</u>
Working capital:	<u>\$ 216,504</u>	<u>\$ 1,968,964</u>	<u>\$ (1,691,514)</u>	<u>(88.6)%</u>

The decrease in working capital was primarily attributable to the assumption of current liabilities of \$1,689,070 in connection with the Combination.

Net cash flow provided by operating activities was \$1,024,899 for the nine months ended September 30, 2014 as compared to net cash used in operating activities of \$(567,294) for the nine months ended September 30, 2013, an increase of \$1,592,193.

- Net cash flow provided by operating activities for the nine months ended September 30, 2014 primarily reflected net income of \$94,491 and the add-back of non-cash items consisting of depreciation and amortization of \$171,502, and stock-based compensation expense of \$103,090, and changes in operating assets and liabilities primarily consisting of a decrease in accounts receivable of \$713,604 due to collection in 2014, a decrease in inventory of \$202,031, an increase in accrued expenses of \$101,003, and an increase in income taxes payable of \$50,000, offset by an increase in prepaid expenses and other assets of \$230,562 and a decrease in accounts payable of \$179,688.
- Net cash flow used in operating activities for the nine months ended September 30, 2013 primarily reflected net loss of \$(197,642) adjusted for the add-back of non-cash items consisting of a change in inventory obsolescence reserve of \$217,206 and depreciation and amortization of \$165,213, and changes in operating assets and liabilities primarily consisting of an increase in accounts receivable of \$640,927 due to the sale of anti-fog products in the third quarter of 2013, an increase in inventory of \$275,765, and an increase in prepaid expenses and other assets of \$137,359, offset by an increase in accounts payable of \$166,324 and an increase in accrued expenses of \$77,135.

We expect our cash used in operating activities to increase as we begin to develop new products, as we increase our professional staff and services, and as we increase our marketing efforts for existing and new product lines.

Net cash flow used in investing activities reflects the purchase of property and equipment of \$144,039 and \$37,796 for the nine months ended September 30, 2014 and 2013, respectively. The increase was attributable to the purchase of additional packaging equipment in the 2014 period.

Net cash used in financing activities was \$774,919 for the nine months ended September 30, 2014 as compared to \$740,084 in the same period in 2013. In both periods, this was the result of repayment of bank debt, net of borrowings.

Future Liquidity and Capital Needs. Our principal future uses of cash are for working capital requirements, including research and development and marketing expenses, capital expenditures and reduction of accrued liabilities. These uses will depend on numerous factors including our sales and other revenues, the extent of our research and development activities and our ability to control costs, including the integration of Nano and Applied Nanotech. We have historically financed our working capital needs primarily through internally generated funds, and bank loans. We collect cash from our customers based on our sales to them and their respective payment terms. We plan to seek additional equity financing in the public market to fund growth of our operations.

Revolving Credit Note

In April 2014, our subsidiary, Nanofilm entered into a \$1,500,000 revolving credit line agreement (the "Revolving Note") with Mackinac Commercial Credit, LLC. (the "Lender"). The unpaid principal balance of this Revolving Note is payable on demand, is secured by all of Nanofilm's assets, and bears interest computed at a rate of interest (the "Effective Rate") which is equal to 7.0% above the LIBOR Rate, as defined, payable monthly. Nanofilm will pay a late charge of 5.0% of any monthly payment not received by Lender within 10 calendar days after the due date. The Company, at any time or from time to time upon three business days' written notice to Lender, prepay the Revolving Note in full. If Borrower prepays the Revolving Note in full and terminates the Revolving Note aft, or if Lender terminates the Revolving Note after default, then, in addition to all other amounts due to Lender and/or paid by the Company, the Company must pay a termination premium equal to 2.0% of the maximum loan amount. Nanofilm used \$988,000 of proceeds of the Revolving Note to payoff certain other indebtedness to its then Lender.

Without the Lender's consent, so long as the obligation remains outstanding, in addition to other covenants as defined in the Revolving Note, Nanofilm shall not a) merge or consolidate with any other company, except for the Combination and shall not suffer a change of control; b) make an capital expenditures, as defined, materially affecting the business; c) declare of pay cash dividends upon any of its stock, or distribute any of its property, make any loans, make investments, redeem, retire or acquire any of its stock, d) become liable for the indebtedness of anyone else, as defined, and e) incur indebtedness, other than trade payables.

At September 30, 2014, we had \$0 in borrowings outstanding under the Revolving Note with \$1,500,000 available for borrowing under such note. The weighted average interest rate during the period was approximately 6.8%.

Off-balance Sheet Arrangements

We have not entered into any other financial guarantees or other commitments to guarantee the payment obligations of any third parties. We have not entered into any derivative contracts that are indexed to our shares and classified as shareholder's equity or that are not reflected in our consolidated financial statements. Furthermore, we do not have any retained or contingent interest in assets transferred to an unconsolidated entity that serves as credit, liquidity or market risk support to such entity. We do not have any variable interest in any unconsolidated entity that provides financing, liquidity, market risk or credit support to us or engages in leasing, hedging or research and development services with us.

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 three months ended September 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

On September 1, 2014 we issued 1,200,000 shares of our Class A common stock to our former CFO under the Stock Grant Agreement dated February 2014. On September 24, 2014 we issued 83,610 shares of Class A common stock and 33,444 shares of Class B common stock to Directors as part of their compensation for service.

On October 26, 2014 we issued 1,330,998 shares of Class A common stock and 242,036 shares of Class B common stock upon the automatic conversion in accordance with their terms of \$65,000 of aggregate principal amount of convertible promissory notes previously issued.

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

<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).
2.2	First Amendment to Agreement and Plan of Merger and Exchange dated May 28, 2014 among Applied Nanotech Holdings, Inc., PEN INC., NanoMerger Sub Inc., NanoHolding Inc., and Carl Zeiss, Inc. (Incorporated herein by reference to Exhibit 2.2 of the Company's Form 8-K filed with the SEC on May 30, 2014).
2.3	Second Amendment to Agreement and Plan of Merger and Exchange dated July 2, 2014 among Applied Nanotech Holdings, Inc., PEN INC., NanoMerger Sub Inc., NanoHolding Inc., and Carl Zeiss, Inc. (Incorporated herein by reference to Exhibit 10.1 of the Company's Form 8-K filed with the SEC on July 7, 2014).
3.1	Amended and Restated Certificate of Incorporation of PEN Inc. (Incorporated herein by reference to Annex C, Exhibit B-1 of the Company's Proxy Statement filed with the SEC on July 3, 2014).
3.2	Bylaws of PEN Inc. (Incorporated herein by reference to Annex C, Exhibit B-2 of the Company's Proxy Statement filed with the SEC on July 3, 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	Form of Lock-Up Agreement (Incorporated herein by reference to Exhibit 10.1, of the Company's Form 8-K filed with the SEC on September 2, 2014).
10.8*	Termination of Employment Agreement and Mutual Releases by and between PEN Inc. and its subsidiaries and Zvi Yaniv dated August 27, 2014 (Incorporated herein by reference to Exhibit 10.7, Annex A of the Company's Form 8-K filed with the SEC on March 11, 2014).
10.9+	Restricted Stock Agreement by and between PEN Inc. and Zvi Yaniv dated August 27, 2014 (Incorporated herein by reference to Exhibit 10.7, Annex B of the Company's Form 8-K filed with the SEC on March 11, 2014).
10.10+	Piggyback Registration Rights Agreement by and between PEN Inc. and Zvi Yaniv dated August 27, 2014 (Incorporated herein by reference to Exhibit 10.7, Annex C of the Company's Form 8-K filed with the SEC on March 11, 2014).
10.11+	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).
10.12*	Revolving Credit and Loan Rider (to Loan and Security Agreement effective as of April 4, 2014) between Mackinac Commercial Credit, LLC and Nanofilm, Ltd.
10.13*	Revolving Credit Loan Noty dated April 4, 2014 to Mackinac Commercial Credit, LLC from Nanofilm, Ltd.
10.14*	Loan and Security Agreement effective as of April 4, 2014 by and between Nanofilm, Ltd. and Mackinac Commercial Credit, LLC
31.1*	Rule 13a-14(a)/15d-14(a) Certificate of Chief Executive Officer
31.2*	Rule 13a-14(a)/15d-14(a) Certificate of Chief Financial Officer
32.1*	Section 1350 Certificate of Chief Executive Officer and Chief Financial Officer
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
+	Management contract or compensatory plan or arrangement.
*	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.

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.

PEN INC.
(Registrant)

Date: November 14, 2014

/s/ Scott Rickert

Scott Rickert, Ph.D.
President and Chief Executive Officer
(Principal Executive Officer)

Date: November 14, 2014

/s/ Adam Wasserman

Adam Wasserman
Chief Accounting Officer
(Chief Accounting Officer)

REVOLVING CREDIT LOAN RIDER #1
(to Loan and Security Agreement dated as of April 4, 2014)

MACKINAC COMMERCIAL CREDIT, LLC (“Lender”)

This Revolving Credit Loan Rider and the attached Term Sheet (collectively, the “Rider”) sets forth the terms upon which Lender will make certain Advances to **NANOFILM, LTD.**, an Ohio limited liability company (“Borrower”) under the Revolving Credit Loan and is a supplement to and is hereby incorporated into that Loan and Security Agreement between Borrower and Lender, as amended (the “Agreement”).

1. Definitions. Capitalized terms used but not defined herein shall have the meanings ascribed to such terms in the Loan Agreement. As used herein:

A. “Eligible Finished Goods” means finished goods Inventory that is Eligible Inventory.

B. “Eligible Inventory” means Inventory (net of freight and container costs) which Lender, in its sole discretion, shall deem Eligible Inventory, based on such considerations as Lender may, from time to time, deem appropriate. Without limiting Lender’s discretion, Borrower understands the following Inventory is not Eligible Inventory:

- (i) Inventory which is work-in-process;
- (ii) Inventory which is obsolete or damaged, or not useful;
- (iii) Inventory in which Lender does not have a first perfected security interest or in which any other Person claims a security interest or lien;
- (iv) Inventory which is in transit or in locations other than the Collateral Locations described in the Agreement;
- (v) Inventory which is at a Collateral Location with respect to which Lender does not have a Landlord’s Agreement acceptable to Lender;
- (vi) Inventory which is uninsured or under-insured;
- (vii) Inventory which is held on consignment for or is subject to a bailment arrangement with any other Person;
- (viii) Inventory which is trade-in Inventory or returned goods;
- (ix) Inventory which is used in packaging or shipping of Inventory; and
- (x) Inventory which is nonconforming to standards imposed by any governmental agency regulating such Inventory or the sale or use thereof.

C. “Eligible Raw Material” means raw material Inventory that is Eligible Inventory.

D. "Eligible Receivable" is a Receivable arising in the ordinary course of Borrower's business from the sale or lease of goods which have been delivered to and accepted by the Receivable Debtor. The following are not Eligible Receivables:

- (i) sales by Borrower to any affiliate, to any person controlled by an affiliate or any subsidiary of Borrower;
- (ii) an account which is due or unpaid more than one hundred twenty (120) days after the original invoice date;
- (iii) if twenty-five (25%) percent or more of the invoices of a single Receivable Debtor are greater than one hundred twenty (120) days old, then all invoices from that Receivable Debtor are ineligible;
- (iv) an account in which Lender does not have a first perfected security interest or in which any other Person claims a security interest or lien;
- (v) an account to the extent it exceeds the credit limit set by Lender for that account;
- (vi) the Receivable Debtor is also a creditor or supplier of Borrower or has disputed liability with respect to such account or such account is subject to any right of set off by the Receivable Debtor;
- (vii) the Receivable Debtor is a debtor under Federal Bankruptcy Laws or has filed or filed against it an application for relief under such laws;
- (viii) the Receivable Debtor has suspended business;
- (ix) a receiver, trustee, liquidator or custodian has been appointed for the Receivable Debtor or a significant part of its assets;
- (x) the account arises from a sale to a Receivable Debtor located outside of the United States, except for sales to Receivable Debtors located in Canada not to exceed \$100,000.00 in the aggregate;
- (xi) the account arises from a sale to a Receivable Debtor located in any state requiring the filing of a Notice Of Business Activities Report or similar document in order to bring suit or otherwise enforce its remedies against such Receivable Debtor in the courts or through any judicial process of such state, unless Borrower is qualified to do business in such states, has properly filed a Notice of Business Activities Report as appropriate for the then applicable year, or is exempt from such filing requirement;
- (xii) the account arises from a bill and hold, guaranteed sale, sell or return, sale on approval, consignment or any other repurchase or return basis;
- (xiii) the Receivable Debtor is the United States of America or any department thereof;

- (xiv) the goods giving rise to such account have not been delivered to or accepted by the Receivable Debtor;
- (xv) the total unpaid accounts of a Receivable Debtor exceeds a credit limit determined by Lender in its sole discretion;
- (xvi) there is an agreement with the Receivable Debtor for any deduction beyond those shown on the face of the invoice related to such account; or
- (xvii) Lender, in its sole and absolute discretion, believes that the collection of the account is doubtful or will be delayed.

E. "Inventory" means inventory as defined in Article 9 of the Uniform Commercial Code.

F. "Inventory Report" means a report of all Inventory of Borrower as of the close of business on the Business Day that is no earlier than the Business Day immediately preceding the date of delivery thereof to Lender and which is in form and content acceptable to Lender in its sole discretion.

G. "Receivable" means an account as defined in Article 9 of the Uniform Commercial Code.

H. "Receivable Debtor" means an account debtor of Borrower.

I. "Receivables Aging" means an aged listing of all Receivables of Borrower as of the close of business on the Business Day that is no earlier than the Business Day immediately preceding the date of delivery thereof to Lender, including an aging column for 90-120 days and which is otherwise in form and content acceptable to Lender in its sole discretion.

J. All terms defined in the Agreement which are used herein shall have the meanings as defined in the Agreement, unless specifically defined otherwise herein.

2. Revolving Credit Loan Advances.

A. **Advances.** Subject to the terms of the Agreement, Lender may, in its sole discretion and upon Borrower's request, make Advances to Borrower in an amount (hereinafter referred to as the "Gross Availability") which is the lesser of (i) the **Maximum Loan Amount** as set forth on the Term Sheet or (ii) an amount equal to the sum of (x) the applicable **Percentage Advance Rate** as set forth on the Term Sheet times the face amount (less maximum discounts, credits and allowances which may be taken by or granted to Receivable Debtors in connection therewith) of Eligible Receivables; plus (y) the lesser of (1) the Inventory Cap as set forth on the Term Sheet, or (2) the sum of (A) the applicable Percentage Advance Rate as set forth on the Term Sheet times the value of Borrower's Eligible Raw Materials (less freight and container costs) calculated at the lower of cost or market value, plus (B) the applicable Percentage Advance Rate as set forth on the Term Sheet times the value of Borrower's Eligible Finished Goods (less freight and container costs) calculated at the lower of cost or market value; which Advances Borrower may borrow, repay and reborrow during the term of the Agreement. All Advances and amounts payable pursuant to this Rider shall constitute part of the Obligations.

B. Reserves. Lender shall have a continuing right to deduct reserves in determining the Gross Availability (“Reserves”), and to increase and decrease such Reserves from time to time, if and to the extent that, in Lender’s sole discretion, such Reserves are necessary to protect Lender against any state of facts which does, or would, with notice or passage of time or both, constitute an Event of Default or have an adverse effect on any Collateral. Lender may, at its option, implement Reserves by designating as ineligible a sufficient amount of accounts or inventory which would otherwise be Eligible Receivables or Eligible Inventory so as to reduce Gross Availability by the amount of the intended Reserve.

C. Borrowing Procedure. With each request for an Advance, Borrower will submit to Lender copies of invoices (but only on Lender’s request), a Receivables Aging, an Inventory Report, together with such certifications and other documents and information as Lender shall request, all of which shall be satisfactory to Lender, in its sole discretion.

D. Interest Rate. Borrower shall pay Lender interest on the daily outstanding balance of the Revolving Credit Loan account at a per annum rate equal to the interest rate as set forth in the Agreement (the “Effective Rate”). In the event any payments of principal are not paid when due or declared due, whether at maturity, by acceleration, by lapse of time or otherwise, including any fees, costs or expenses advanced or paid by Lender, the principal balance shall bear interest thereafter, at Lender’s option, and without affecting any of Lender’s rights and remedies provided for in the Agreement, this Rider or any promissory note evidencing the Obligations, at a per annum rate equal to the **Default Rate** as set forth on the Term Sheet. Any change in any of the above interest rates resulting from a change in the LIBOR Rate shall become effective immediately with each change in the LIBOR Rate. Interest charges shall be computed on the basis of a year of 360 days for the actual days elapsed in a month and, except as set forth in Section 12 of the Agreement, will be payable to Lender as set forth in the Note.

E. Principal Payments. In the event that the principal amount outstanding under the Revolving Credit Loan is in excess (for whatever reason) of the amount of the Gross Availability, Borrower agrees to remit to Lender within one (1) business day such amount as may be necessary to reduce the total outstanding amount to the amount of the Gross Availability. All principal and interest due under the Revolving Credit Loan shall be due upon termination of the Agreement.

F. Use of Proceeds. Borrower shall use the proceeds of the Revolving Credit Loan solely for the purposes as set forth in the Agreement and on the attached Term Sheet.

3. Receivables Collection.

A. Cash Collateral Account. All cash, checks, drafts and other instruments for the payment of money (properly endorsed, where required, so that such items may be collected by Lender), which may be received by Borrower at any time in full or partial payment of any of the Receivables (“Remittances”) shall be deposited to a non-interest bearing deposit account in Lender’s name (the “Cash Collateral Account”) as security for payment of the Obligations. Borrower shall have no right to withdraw any funds deposited in the Cash Collateral Account. In the event that Borrower repays the Obligations in full at any time hereafter, the balance in the Cash Collateral Account or such other accounts holding the proceeds thereof will be delivered to Borrower five (5) business days after the date of pay off, unless Lender shall (acting in its sole discretion) notify Borrower to the contrary.

B. Lockbox. The Revolving Credit Loan shall be on a **Lockbox Collection Basis**. Therefore, Borrower shall direct, and/or Lender may advise, all Receivable Debtors to mail all Remittances to the post office box (“Lockbox”) specified by Lender, or as set forth in a lockbox service agreement or other similar agreement with Lender’s bank which provides for the collection and/or processing of Remittances (“Lockbox Agreement”). Borrower shall be responsible for all fees and charges assessed by Lender in connection with its operation of the Lockbox and/or by its bank pursuant to the Lockbox Agreement. Remittances received in a Lockbox shall be deposited into the Cash Collateral Account and disbursed to Lender pursuant to the Lockbox Agreement, and Lender shall apply such Remittances toward payment of the Obligations, whether or not then due, in such order of application as Lender may determine, or Lender may release all or any of such balance to Borrower; provided, however, for purposes of computing interest on the outstanding principal of the Revolving Credit Loan, principal paydowns shall be deemed to have been made after the elapse of the number of **Float Days** set forth on the Term Sheet. If, notwithstanding Borrower’s directions to Receivable Debtors, Borrower receive Remittances directly from Receivable Debtors, Borrower shall not commingle such Remittances with any of its other funds or property, but will hold same separate and apart from its own funds or property, and in trust for Lender until delivery is made to Lender’s bank.

4. Inventory.

A. Return of Inventory. If at any time prior to Borrower's Default under the Agreement or this Rider, any Receivable Debtor returns any Inventory to Borrower in the ordinary course of Borrower's business, Borrower shall promptly determine the reason for such return and issue a credit memorandum to the Receivable Debtor in the appropriate amount. Borrower agrees to give Lender prompt notice of the return of such Inventory. In the event any attempted return occurs after Borrower's Default hereunder, Borrower shall (i) hold the returned Inventory in trust for Lender, (ii) segregate all returned Inventory from all of Borrower's other property and (iii) conspicuously label the returned Inventory as Lender's property.

B. Sale of Inventory. Until its Default under the Agreement or this Rider, Borrower may, in any lawful manner, sell Inventory, but only in the ordinary course of its business, provided, however, its sale shall not cause a breach of its warranties and representations as set forth in this Rider. Borrower acknowledges that any sale of Inventory in the ordinary course of business does not include a transfer of partial or total satisfaction of Indebtedness.

5. Covenants.

A. Receivables. Unless or until Lender notifies Borrower in writing that Lender has dispensed with any one or more of the following requirements, Borrower shall:

- (i) Immediately upon its learning thereof, inform Lender in writing of the rejection of goods by any Receivable Debtor, delays in delivery of goods, nonperformance of contracts and of any assertion of any claims, offsets or counterclaims by any Receivable Debtor;
- (ii) Not permit or agree to any extension, compromise or settlement or make any change or modification of any kind or nature with respect to any Receivables, including any of the terms relating thereto;
- (iii) Immediately upon its learning thereof, furnish to and inform Lender of all information relating to the financial condition of any Receivable Debtor;
- (iv) Immediately upon its learning thereof, notify Lender in writing of those Receivables which are not Eligible Receivables;
- (v) Keep all goods returned by any Receivable Debtor and all goods repossessed or stopped in transit by Borrower from any Receivable Debtor segregated from Borrower's other property, holding the same as trustee for Lender until otherwise directed in writing by Lender;

- (vi) Not re-date any invoice or sale;
- (vii) Not make sales on extended dating terms beyond that customary in Borrower's industry; and
- (viii) Immediately deliver to Lender any promissory note, trade acceptance or any other instrument for the payment of money evidencing any Receivables and endorsed to Lender's order.

B. Inventory. Unless or until Lender notifies Borrower in writing that Lender has dispensed with any one or more of the following requirements, Borrower shall:

- (i) not remove the Inventory from the Collateral Locations described in the Agreement;
- (ii) promptly, and in any event within five (5) days of the receipt thereof, deliver such certification schedules and information relating to the Inventory and Eligible Inventory as Lender may reasonably request;
- (iii) keep correct and accurate records itemizing and describing the kind, type, quality and quantity of Inventory, Borrower's costs, therefore, selling price thereof, and the daily withdrawals therefrom and additions thereto, all of which records shall be available to Lender, its officers, employees and agents upon demand for inspection and copying;
- (iv) concurrently, with the delivery of any of the Inventory to a bailee, warehousemen or similar party, deliver to Lender, in form acceptable to Lender, warehouse receipts in Lender's name evidencing the storage of Inventory;
- (v) allow Lender to have the right upon the demand and at any time or times hereafter during Borrower's usual business hours to inspect and examine Inventory and to check and test the same as to quality, quantity, value and condition. Borrower agrees to reimburse Lender for its reasonable costs and expenses in doing so;
- (vi) conduct a physical count of the Inventory at such intervals as Lender may request and promptly supply Lender with a copy of such counts accompanied by a report of the value (valued at the lower of cost or market value) of the Inventory;
- (vii) if sales of Inventory are made for cash, Borrower shall immediately deliver to Lender the identical checks, cash or other forms of payment which Borrower receives (only in the event Lender elects to place Borrower on a dominion of funds arrangement or on Default);
- (viii) not acquire consigned Inventory.

6. Representations.

A. Receivables. With respect to all Receivables now in existence or hereafter created, Borrower warrants and represents to Lender that, except as disclosed to Lender in writing:

- (i) all Receivables are genuine in all respects, are what they purport to be and are not evidenced by a judgment;
- (ii) all Receivables represent undisputed, *bona fide* transactions completed in accordance with the terms and provisions contained in the invoices and purchase orders relating thereto;
- (iii) the amounts shown on all certifications provided to Lender, Borrower's books and records and all invoices and statements delivered to Lender with respect thereto are actually and absolutely owing to Borrower and are not contingent for any reason;
- (iv) if Lender has requested Borrower to do so, all payments thereon following such request have been or shall be turned over to Lender by Borrower;
- (v) there are no setoffs, counterclaims or disputes existing or asserted with respect thereto and Borrower has not made any agreement with any Receivable Debtor thereof for any deduction or discount of the sum payable thereunder except regular discounts allowed by Borrower in the ordinary course of its business for prompt payment;
- (vi) there are not now and there shall not be at any time or times hereafter any facts, events or occurrences which in any way impair the validity or enforcement thereof or tend to reduce the amount payable thereunder from the amounts thereof as shown on the certifications provided to Lender, Borrower's books and records and the invoices and statements delivered to Lender with respect thereto;
- (vii) to the best of Borrower's knowledge, all Receivable Debtors thereof have the capacity to contract and are solvent;
- (viii) the goods sold or transferred and the services furnished, giving rise thereto are not subject to a lien, claim, encumbrance or security interest except Lender's security interest;
- (ix) Borrower has no knowledge of any fact or circumstance which would impair the validity or collectability thereof;
- (x) to the best of Borrower's knowledge, there are no proceedings or actions which are threatened or pending against any Receivable Debtor which might result in any material adverse change in its financial condition; and
- (xi) with respect to those Receivables upon which Borrower relies for Advances, all are Eligible Receivables.

B. Inventory. With respect to all Inventory now in existence or hereafter required, Borrower warrants and represents to Lender that, except as disclosed to Lender in writing:

- (i) Inventory is kept only at the **Collateral Locations** described in the Agreement;
- (ii) The amount shown on all certifications provided to Lender and on Borrower's books and records is actually owned by Borrower without any claim or ownership by any other Person; and
- (iii) With respect to that Inventory upon which Borrower relies for Advances, all is Eligible Inventory.

7. Notification and Collection. Borrower understands that Lender will, upon Default:

A. At Lender's option, notify all Receivable Debtors that Receivables have been assigned to Lender, that Lender has a security interest therein and payment is to be made to the Lockbox;

B. To the extent Lender has not given notice previously, Lender may request all Receivable Debtors to make payments on Receivables directly to Lender;

C. If deemed necessary by Lender, enforce payment and collect in Lender's name, by legal proceedings or otherwise, Borrower's Receivables and to charge the collection costs and expenses to Borrower's Loan Account; and

D. If deemed necessary by Lender, take control in any manner of any cash or non-cash proceeds of Receivables and of any rejected, returned, stopped in transit or repossessed goods relating to Receivables.

8. Power of Attorney. Borrower hereby irrevocably designates, makes, constitutes and appoints Lender (and any agents designated by Lender) as its true and lawful attorney, with power, without notice to Borrower and at such time or times hereafter as Lender may in its sole discretion determine, in Lender's name or Lender's name and at Borrower's expense:

- A.** To demand payment of Receivables;
- B.** To enforce payment of Receivables, by legal proceedings or otherwise;
- C.** To exercise all of Borrower's rights and remedies with respect to the collection of Receivables;
- D.** To settle, adjust, compromise, extend or renew any Receivables;
- E.** To settle, adjust or compromise any legal proceedings brought to collect Receivables;
- F.** To sell or assign any Receivables upon such terms, for such amount and at such time as Lender deems advisable;
- G.** To discharge and release any Receivables;

H. To prepare, file and sign Borrower's name on any proof of claim in bankruptcy or similar document against any Receivable Debtor;

I. To prepare, file and sign Borrower's name on any financing statement, notice of lien, claim of mechanic's lien, assignment or satisfaction of lien or mechanic's lien, or similar document in connection with any Receivables;

J. To do all acts and things necessary, in Lender's sole discretion, to fulfill Borrower's obligations under the Agreement and this Rider;

K. To endorse Borrower's name upon any checks, notes, acceptances, money orders or other forms of payment and to deposit the same in the Cash Collateral Account on account of Borrower's Obligations;

L. To endorse Borrower's name upon any chattel paper, document, instrument, freight bill, bill of lading or similar document or agreement relating to any Receivables or goods pertaining thereto;

M. To sign Borrower's name to verifications of Receivables and notices thereof to Receivable Debtors; and

N. To notify the post office authorities, after Borrower's Default under this Agreement, to change the address for delivery of Borrower's mail to an address designated by Lender and to open such mail for purposes of collecting Receivables.

Borrower ratifies and approves all acts of Lender and Lender's designee. Neither Lender nor Lender's designee will be liable for any acts or omissions nor for any error of judgment or mistake of fact or law, except for willful misconduct. This power, being coupled with an interest, is irrevocable until the Obligations have been fully satisfied.

9. Costs and Expenses. All costs and expenses incurred by Lender in any manner or way with respect to Lender's enforcement of its rights and remedies under the Agreement or this Rider or with respect to Lender's collection of Receivables or protection of its security interest in Receivables and the Collateral, whether by suit or otherwise, or with respect to Lender's notification of Receivable Debtors or verification of Receivables shall be a part of the Obligations and payable on demand. Without limiting the generality of the foregoing, such costs and expenses include reasonable attorneys' fees, court costs, court reporting expenses, long distance telephone charges, postage, telegram charges, wire transfer expenses, expenses of auditors, collectors, clerks and investigators, expenses for travel, lodging and food and expenses for repairing, altering or supplying goods, if any, necessary to fulfill in whole or in part any purchase order of any Receivable Debtor from which the Receivables involved have arisen.

10. Termination. This Rider and Lender's and Borrower's respective obligations hereunder shall terminate upon payment in full of the Obligations or upon Borrower's execution and Lender's acceptance of a subsequently numbered and/or dated Term Sheet and Revolving Credit Loan Rider.

[Signatures on following page]

BORROWER:

NANOFILM, LTD.,
an Ohio limited liability company

By: /s/ Scott E. Rickert

Scott Rickert

Its: Chief Executive Officer

LENDER:

MACKINAC COMMERCIAL CREDIT, LLC
a Michigan limited liability company

By: /s/ Edward P. Lewan

Edward P. Lewan

Its: Chief Lending Officer

TERM SHEET

**ATTACHMENT TO
REVOLVING CREDIT LOAN RIDER #1
DATED AS OF APRIL 4, 2014
TO LOAN AND SECURITY AGREEMENT
DATED AS OF APRIL 4, 2014**

Paragraph	Provisions	Terms
2(A)(i)	Maximum Loan Amount	\$1,500,000.00
2(A)(ii)	Percentage Advance Rate	
	Eligible Receivables	85%
	Eligible Raw Materials	40%
	Eligible Finished Goods	50%
	Inventory Cap	\$500,000.00
2(D)	Default Rate	5.0% plus the Effective Rate
2(F)	Use of Proceeds	To refinance indebtedness owed to Fifth Third Bank and working capital
3(B)	Lockbox Collection Basis	Yes
	Float Days	Five (5) banking days

Borrower understands that this Term Sheet defines certain terms used in the Revolving Credit Loan Rider (the "Rider") to which this Term Sheet is attached. Borrower has read the Rider and this Term Sheet and fully understands their relationship. By executing both documents, Borrower acknowledges the foregoing.

[Signatures on following page]

BORROWER:

NANOFILM, LTD.,
an Ohio limited liability company

By: /s/ Scott Rickert

Scott Rickert

Its: Chief Executive Officer

LENDER:

MACKINAC COMMERCIAL CREDIT, LLC,
a Michigan limited liability company

By: /s/ Edward P. Lewan

Edward P. Lewan

Its: Chief Lending Officer

REVOLVING CREDIT LOAN NOTE

\$1,500,000.00

Due Date: **The earlier of Demand or**
April 4, 2015

Dated: April 4, 2014

FOR VALUE RECEIVED, the undersigned (whether one or more in number, "Borrower", and if two or more in number, shall be jointly and severally bound), promises to pay to the order of **MACKINAC COMMERCIAL CREDIT, LLC**, a Michigan limited liability company (the "Lender"), at its office at 260 E. Brown Street, Birmingham, Michigan 48009, or at such other place as Lender may designate in writing, the principal sum of One Million Five Hundred Thousand and 00/100 Dollars (\$1,500,000.00), or such lesser sum as shall have been advanced (each an "Advance") by Lender to Borrower pursuant to that certain Loan and Security Agreement dated as of the date hereof between Borrower and Lender (which, together with all amendments and modifications thereof, is hereinafter referred to as the "Loan Agreement"), plus interest as hereinafter provided, all lawful money of the United States of America, in accordance with the terms hereof. Capitalized terms used but not defined herein shall have the meanings ascribed to such terms in the Loan Agreement.

The unpaid principal balance of this Revolving Credit Loan Note (the "Note") shall bear interest computed upon the basis of a year of 360 days for the actual number of days elapsed in a month, at a rate of interest (the "Effective Rate") which is equal to seven percent (7.0%) above the LIBOR Rate (hereinafter defined), as such rate shall vary from time to time, upwards and downwards, and each such LIBOR Rate change shall cause an identical change in the Effective Rate to occur effective immediately. "LIBOR Rate" means the London interbank offered rate for three months, published from day to day in the Wall Street Journal in its Money Rates column. Should such publication not continue to publish LIBOR, Lender will select a comparable announced rate.

Interest on all principal amounts advanced by Lender from time to time and unpaid by Borrower shall be paid on the first (1st) day of the month following the initial Advance under this Note, and on the same day of each month thereafter until the Due Date, upon which date the entire unpaid principal balance of this Note, together with all accrued and unpaid interest, shall be due and payable in full. Borrower shall pay to Lender a late charge of five percent (5.0%) of any monthly payment not received by Lender within ten (10) calendar days after said payment is due, which late charge shall be payable on the next monthly payment date or on Demand. In addition to the foregoing, Borrower shall pay to Lender on the first (1st) day of each month with respect to the prior calendar month or portion thereof, the amount, if any, necessary to pay the fees as set forth in the Loan Agreement.

Advances of principal, repayment, and readvances may be made under this Note from time to time, upon the terms set forth in the Loan Agreement and said Loan Agreement is incorporated herein by reference. Mandatory repayments of principal before the Due Date shall be made by Borrower to Lender pursuant to the Loan Agreement. If, prior to the Due Date, Borrower pays the balance of the Note after Demand or terminates the Loan, whether voluntarily or involuntarily, Borrower shall pay to Lender as liquidated damages and as compensation for the costs of being prepared to make funds available under the Loan Agreement, a termination fee as set forth in the Loan Agreement.

All Advances made hereunder shall be charged to the Loan Account in Borrower's name on Lender's books, and Lender shall debit to such account the amount of each Advance made to, and credit to such account the amount of each repayment made by Borrower. Lender shall furnish Borrower with a monthly statement of Borrower's Loan Account, which statement shall be deemed to be correct, accepted by, and binding upon Borrower, unless Lender receives a written statement of exceptions from Borrower within thirty (30) days after such statement has been furnished. Borrower expressly assumes all risks of loss or delay in the delivery of any payments made by mail, and no course of conduct or dealing shall affect Borrower's assumption of these risks.

Upon the Due Date, which Borrower acknowledges may be upon Demand, Lender, without prior notice to Borrower, may declare the entire unpaid principal balance of this Note and all accrued interest, together with all other indebtedness of Borrower to Lender, to be immediately due and payable. Upon the occurrence of any Default specified in the Loan Agreement, or on Demand, among other remedies set forth in the Loan Agreement, the unpaid principal balance of this Note shall bear interest at a rate which is five percent (5.0%) greater than the Effective Rate otherwise applicable. After Default or Demand, Lender may apply its own indebtedness or liability to Borrower to any indebtedness due under this Note. Borrower agrees to pay all of the Lender's costs incurred in the collection of this Note as provided in the Loan Agreement. Upon the occurrence of a Default, Lender may exercise all rights and remedies as set forth in the Loan Agreement (such rights and remedies being incorporated in this Note by this reference as though fully set forth herein) and applicable law.

Acceptance by Lender of any payment in an amount less than the amount then due shall be deemed an acceptance on account only. Upon any Default or Demand, neither the failure of the Lender promptly to exercise its right to declare the outstanding principal and accrued unpaid interest hereunder to be immediately due and payable, nor the failure of the Lender to demand strict performance of any other obligation of the Borrower or any other person who may be liable hereunder, shall constitute a waiver of any such rights, nor a waiver of such rights in connection with any future default on the part of the Borrower or any other person who may be liable hereunder.

Borrower acknowledges that no Default is necessary for Lender to make Demand.

Borrower and all endorsees, sureties and guarantors hereof hereby jointly and severally waive presentment for payment, demand, notice of non-payment, notice of protest or protest of this Note, and Lender diligence in collection or bringing suit, and do hereby consent to any and all extensions of time, renewals, waivers or modifications as may be granted by Lender with respect to payment or any other provisions of this Note, and to the release of any collateral or any part thereof, with or without substitution. The liability of Borrower under this Note shall be absolute and unconditional, without regard to the liability of any other party. This Note and all rights and obligations hereunder shall be governed by the laws of the State of Michigan.

In no event whatsoever shall the interest rate and other charges charged hereunder exceed the highest rate permissible under any law which a court of competent jurisdiction shall, in the final determination, deem applicable hereto. In the event that a court determines that Lender has received interest or other charges hereunder in excess of the highest rate applicable hereto, Lender shall either, in its sole discretion, promptly apply such amounts to the principal due hereunder or refund such amount to Borrower and the provisions herein shall be deemed amended to provide for such permissible rate.

BORROWER ACKNOWLEDGES THAT ITS LEGAL COUNSEL HAS ADVISED IT THAT (A) THERE MAY BE A CONSTITUTIONAL RIGHT TO A JURY TRIAL IN CONNECTION WITH ANY CLAIM, DISPUTE OR LAWSUIT ARISING OUT OF THIS NOTE, AND (B) SUCH CONSTITUTIONAL RIGHT MAY BE WAIVED. AFTER CONSULTATION WITH ITS COUNSEL OF CHOICE (OR OPPORTUNITY TO CONSULT), WHICH HAS INCLUDED ITS COUNSEL'S REVIEW OF THIS NOTE, BORROWER BELIEVES THAT IT IS IN ITS BEST INTEREST IN THIS COMMERCIAL TRANSACTION TO WAIVE SUCH RIGHT. ACCORDINGLY, BORROWER HEREBY WAIVES ITS RIGHT TO A JURY TRIAL AND FURTHER AGREES THAT THE BEST FORUM FOR HEARING ANY CLAIM, DISPUTE OR LAWSUIT, IF ANY, ARISING IN CONNECTION WITH THIS NOTE OR ITS RELATIONSHIP WITH LENDER, SHALL BE A COURT OF COMPETENT JURISDICTION SITTING WITHOUT A JURY.

This Note is issued pursuant to the terms of the Loan Agreement and is secured by the Collateral, as defined in the Loan Agreement. All of the terms, covenants and conditions of the Loan Agreement are hereby made a part of this Note and are hereby incorporated by reference.

BORROWER:

NANOFILM, LTD.,
an Ohio limited liability company

By: /s/ Scott E. Rickert

Name: Scott Rickert

Its: Chief Executive Officer

LOAN AND SECURITY AGREEMENT

This Loan And Security Agreement (“Agreement”), effective as of April 4, 2014, is made by and between **NANOFILM, LTD.**, an Ohio limited liability company (the “Borrower”) and **MACKINAC COMMERCIAL CREDIT, LLC**, a Michigan limited liability company (together with its successors and assigns, the “Lender”).

1. DEFINITIONS. As used herein:

(a) “Advances” means loans to Borrower under this Agreement and the Revolving Credit Loan Rider attached hereto, evidenced by the Revolving Credit Note.

(b) “Affiliate” means, with respect to any Person other than an individual, any other Person (i) directly or indirectly controlling or controlled by or under direct or indirect common control with such Person or (ii) directly or indirectly owning or holding ten percent (10%) or more of the Ownership Interests in such Person. For purposes of this definition, “control” when used with respect to any Person means the power to direct the management and policies of such Person, directly or indirectly, whether through the ownership of voting Ownership Interests, by contract or otherwise; and the terms “controlling” and “controlled” have meanings correlative to the foregoing.

(c) “APNT” means Applied Nanotech Holdings, Inc., a Texas corporation.

(d) “Borrower” means nanoFILM, Ltd., an Ohio limited liability company, also styled from time to time as “Nanofilm, Ltd.”.

(e) “Capital Expenditures” shall mean, as to any Person, with respect to any period, the aggregate of all expenditures (whether paid in cash or accrued as liabilities and including capital lease obligations) by such Person during such period that are required by GAAP, consistently applied, to be included in or reflected by the property, plant and equipment or similar fixed asset accounts (or intangible accounts subject to amortization) on the balance sheet of such Person.

(f) “Collateral” means all of Borrower’s assets and property, real and personal, tangible and intangible, whether presently owned or hereafter acquired or arising, including without limitation:

- (i) accounts (whether or not earned by performance), letter of credit rights, chattel paper, contracts, contract rights, instruments, documents and supporting obligations (individually and collectively referred to as “Receivables”);
 - (ii) general intangibles (including, without limitation, tax refunds, tax refund claims, trade names, goodwill, trademarks, copyrights, processes, patents, patent rights, patent applications, licenses, inventories, royalties, and/or commissions and permits, choses-in-action, judgments and tort claims) (individually and collectively referred to as “Intangibles”);
 - (iii) goods, inventory, merchandise and other personal property, wherever located, to be furnished under any contract of service or held for sale or lease, all raw materials, work in process, finished goods and materials and supplies of any kind, nature or description which are or might be used or consumed in Borrower’s business or used in connection with the manufacture, packing, shipping, advertising, selling or finishing of such goods, merchandise and other personal property including without limitation such goods which give rise to any Receivables and which goods have been returned to or repossessed or stopped in transit by Borrower (“Inventory”);
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- (iv) tangible goods (other than Inventory), machinery, equipment and fixtures including without limitation office machines, tools, dies, furniture, and vehicles together with all accessions, parts and appurtenances thereto appertaining or attached or kept or used or intended for use in connection therewith, and all substitutions, renewals, improvements and replacements of and additions thereto (sometimes hereinafter individually and collectively referred to as "Equipment");
- (v) property now or at any time hereafter in Lender's possession (including monies, deposit accounts, claims and credit balances);
- (vi) all deposit accounts and investment property;
- (vii) all interests in any lease of real property or personal property, whether as a lessor or lessee, including all options to purchase any leased property, and all leasehold improvements;
- (viii) books, blueprints, drawings and records related to any of the foregoing as described in subsection (i) through (vii) above;

and all proceeds (including proceeds of any insurance policies, including business interruption or business income insurance policies) and products of and accessions to all the foregoing described property in which Borrower has any right, title or interest.

(g) "Commitment Fee" As defined and set forth on the Term Sheet.

(h) "Default" shall have the meaning set forth in Section 11 of this Agreement.

(i) "Demand" or "Demanded" shall mean the act of giving written notice by Lender to Borrower demanding payment in full of the Obligations, which demand shall be effective (i) if a Default then exists, when such written notice is given, (ii) if a Default shall occur within the ten (10) business day period following the date such written notice is given, when the Default occurs, or (iii) if no Default has occurred, on the eleventh (11th) business day following the date such written notice is given.

(j) "Due Diligence Investigation Fee" means all fee deposits of Borrower with Lender for the payment of Lender's costs and expenses of its due diligence investigation of Borrower relating to the Loan.

(k) "EBITDA" shall mean net income plus, to the extent deducted from revenues in determining net income, (a) interest expense, (b) expense for taxes paid or accrued, (c) depreciation, (d) amortization and other non-cash charges and (e) extraordinary losses (as determined in accordance with GAAP), minus, to the extent included in net income, extraordinary gains (as determined in accordance with GAAP), all calculated for Borrower and Borrower's Subsidiaries on a consolidated basis.

(l) "Fiscal Year" means beginning on January 1 and ending on December 31.

(m) “Fixed Charges” shall mean, with reference to any period, without duplication, cash, interest expense, plus prepayments and scheduled principal payments on Indebtedness made during such period, plus expense for taxes paid in cash, plus dividends or distributions paid in cash, plus capital lease payments, plus unfinanced Capital Expenditures, all calculated for Borrower and Borrower’s Subsidiaries on a consolidated basis.

(n) “Indebtedness” means all of Borrower’s present and future obligations, liabilities, debts, claims and indebtedness, contingent, fixed or otherwise, however evidenced, created, incurred acquired, owing or arising, whether under written or oral agreement, operation of law, or otherwise, and includes, without limiting the foregoing: (i) the Obligations, (ii) obligations and liabilities of any Person secured by a lien, claim, encumbrance, or security interest upon property owned by Borrower, even though Borrower has not assumed or become liable therefor, (iii) obligations and liabilities created or arising under any lease (including capitalized leases) or conditional sales contract or other title retention agreement with respect to property used or acquired by Borrower, even though the rights and remedies of the lessor, seller or lender are limited to repossession, (iv) all unfunded pension fund obligations and liabilities, and (v) deferred taxes.

(o) “Guarantor” means Scott E. Rickert, an individual.

(p) “LIBOR Rate” means the London interbank offered rate for three months, published from day to day in the Wall Street Journal in its Money Rates column. Should such publication not continue to publish LIBOR, Lender will select a comparable announced rate.

(q) “Loan Account” means an account maintained by Lender for the Loan.

(r) “Loan” means the Revolving Credit Loan.

(s) “Loan Documents” means collectively, this Agreement, the Note, and all other documents and instruments executed in connection therewith.

(t) “Merger” means a merger transaction pursuant to which (I) all of the voting stock of APNT is exchanged for 38% of the Class A voting stock of PEN, and APNT is merged into PEN, and (II) all of the voting power of NanoHolding is exchanged for Class A and Class B voting stock constituting in the aggregate 98% of the voting power for PEN and the Class Z membership interests of Zeiss are exchanged for non-voting stock (with the right to appoint one director) of PEN, all pursuant to the Merger Agreement.

(u) “Merger Agreement” means the Agreement and Plan of Merger and Exchange between APNT, PEN and NanoMerger Sub, NanoHolding and Zeiss dated March 10, 2014, as amended.

(v) “Nanofilm Equityholders” means (i) Alan Evans, Charles Evans Family Trust, Malcolm Myers and Bruce Vereecken and (ii) Rickert Family Limited Partnership, respectively, the beneficial holders, as of the date hereof, of one hundred percent (100%) of the outstanding Class A stock and 100% of the outstanding Class B stock of NanoHolding.

(w) “Nanofilm Voting Control” means voting control of NanoHolding and, in turn, Nanofilm, Ltd., for all purposes.

(x) “NanoHolding” means NANO HOLDING INC., a Delaware corporation, formed on February 24, 2014, and the holder of 100% of the outstanding stock of Borrower.

(y) “NanoMerger Sub” means NanoMerger Sub, Inc., a Delaware corporation, wholly owned by PEN.

(z) “Note” means the Revolving Credit Note.

(aa) “Obligations” means all present and future loans, advances, debts, liabilities, obligations, covenants, duties and Indebtedness owing by Borrower to Lender, whether evidenced by any note, or other instrument or document, whether arising from an extension of credit, opening of a letter of credit, loan, guaranty, indemnification or otherwise, whether direct or indirect (including, without limitation, those acquired by assignment and any participation by Lender in Borrower’s debts owing to others), absolute or contingent, due or to become due, including, without limitation, all interest, charges, expenses, fees, attorneys’ fees and any other sums chargeable to Borrower hereunder or under any other agreement with Lender.

(bb) “Obligor” means Borrower, Guarantor or any other guarantor of the Obligations, individually or collectively.

(cc) “Ownership Interest” means all shares, interests, participations, rights to purchase, options, warrants, general or limited partnership interests, limited liability company membership interests or other equivalents (regardless of how designated) of or in a corporation, partnership, limited liability company or equivalent entity, whether voting or nonvoting, including common stock, preferred stock or any other “equity security” (as such term is defined in Rule 3a11-1 of the Rules and Regulations promulgated by the Securities and Exchange Commission (17 C.F.R. § 240.3a11-1) under the Securities and Exchange Act of 1934, as amended).

(dd) “PEN” means PEN Inc., a Delaware corporation, formed by APNT and Borrower for the purpose of consummating the PEN Merger.

(ee) “PEN Voting Control” means voting control of PEN for all purposes subject only to the right of Zeiss to elect one (1) member of the PEN Board of Directors.

(ff) “Person” means any individual, sole proprietorship, partnership, joint venture, trust, unincorporated organization, association, corporation, government, or any agency or political division thereof, or any other entity.

(gg) “Receivable” means an account as defined in Article 9 of the Uniform Commercial Code.

(hh) “Receivables Aging” means an aged listing of all Receivables of Borrower as of the close of business on the Business Day that is no earlier than the Business Day immediately preceding the date of delivery thereof to Lender, including an aging column for 91-120 days and which is otherwise in form and content acceptable to Lender in its sole discretion.

(ii) “Subsidiary” shall mean any corporation of which more than fifty percent (50%) of the outstanding capital stock having ordinary voting power to elect a majority of the board of directors of such corporation (irrespective of whether, at the time, stock of any other class of such corporation shall have or might have voting power by reason of the happening of any contingency) is at the time, directly or indirectly, owned by Borrower, or any partnership, joint venture or limited liability company of which more than fifty percent (50%) of the outstanding equity interests are at the time, directly or indirectly, owned by Borrower, or any partnership of which Borrower is a general partner.

(jj) "Term Sheet" means any document attached to this Agreement and to any Rider which contains other terms and conditions of this transaction.

(kk) "Vendor Location(s)" means premises owned or solely controlled by vendors of Borrower who possess Inventory of Borrower for processing and/or return shipment to Borrower or shipment to customers of Borrower.

Any accounting terms used in this Agreement, unless otherwise indicated, shall have the meanings customarily given to them in accordance with generally accepted accounting principles ("GAAP").

All other terms contained in this Agreement, unless otherwise indicated, shall have the meanings provided by the Uniform Commercial Code of the state set forth in Section 15(b) ("Code") to the extent the same are defined therein.

2. REVOLVING CREDIT LOAN.

(a) **Revolving Credit Loan; Loan Advances; Revolving Credit Loan Note.** Lender will establish a revolving credit loan facility (the "Revolving Credit Loan") in the amount of the Maximum Loan Amount as set forth on the Term Sheet, and subject to the terms of this Agreement, Lender may, upon Borrower's request, but at all times in Lender's sole discretion, make Advances to Borrower from time to time, pursuant to the Revolving Credit Loan Rider attached hereto and made a part hereof (the "Rider"). Lender may, in Lender's sole discretion and without notice to Borrower, disburse any or all of the proceeds of any or all of the Advances made by Lender to such person or persons as Lender deems necessary to insure that the security interest in or lien upon the Collateral shall at all times have the priority represented by Borrower in this Agreement. Lender may, in Lender's sole discretion, at any time reduce the Percentage Advance Rate (as defined in the Rider) or the Advance amounts set forth in any Rider. Lender may, from time to time, reimburse itself for any loan, interest due, fees or expenses, or any third party for any of Borrower's Obligations by charging Borrower's Loan Account. Lender may deduct from the Advances under this Agreement reserves for accrued interest and such other reserves as Lender deems proper and necessary.

(b) **Revolving Credit Loan Note.** Borrower's obligation to repay Advances under the Revolving Credit Loan shall be evidenced by a Revolving Credit Loan Note, in form satisfactory to Lender executed simultaneously herewith, the terms of which are incorporated herein by this reference.

(c) **Interest and Other Charges.** Borrower shall pay interest on the daily outstanding balance of the Note at the rates as set forth in the Rider. In addition, Borrower shall pay on the first day of each month, with respect to the prior calendar month or portion thereof (i) an underutilization fee equal to one-fourth of one percent (0.25%) of the average amount of the Maximum Loan Amount not utilized during the prior month, and (ii) a processing fee equal to thirty-five one-hundredths of one percent (0.35%) of the average balance outstanding under the Loan during the prior month. In no event whatsoever shall the interest rate and other charges charged hereunder exceed the highest rate permissible under any law which a court of competent jurisdiction shall, in the final determination, deem applicable hereto. In the event that a court determines that Lender has received interest or other charges hereunder in excess of the highest rate applicable hereto, Lender shall promptly, in Lender's sole discretion, either apply such amount to the Obligations or refund such amount to Borrower and the provisions herein shall be deemed amended to provide for such permissible rate.

(d) **Termination Premium.** Borrower may, at any time or from time to time upon three (3) business days' written notice to Lender, prepay the Note in whole or in part prior to the Maturity Date (including any extension of the Maturity Date pursuant to Section 2(e) below or otherwise) provided that (i) if Borrower prepays the Revolving Credit Loan Note in full and terminates the Revolving Credit Loan after the date hereof, or (ii) Lender, after the date hereof, terminates the Revolving Credit Loan after Default (in either case, a "Termination"), then Borrower shall pay, in addition to all other amounts due to Lender and/or paid by Borrower, a termination premium equal to two percent (2.0%) of the Maximum Loan Amount ("Termination Premium").

(e) **Term; Automatic Renewal.** The term of this Agreement and of the Loan shall be on Demand, but if Demand is not made, then no later than the date set forth on the Term Sheet (the "Maturity Date"). Notwithstanding anything to the contrary or inconsistent contained herein, provided no Default exists, the original Maturity Date will automatically be extended one time for one (1) year ("Renewal Term"), unless either party notifies the other party in writing of its intent not to so extend the Maturity Date at least sixty (60) days prior to the original Maturity Date. If the Maturity Date is extended, Borrower shall pay to Lender a renewal fee in the amount of one percent (1.0%) of the Maximum Loan Amount, which shall be due and payable on or before the beginning of the Renewal Term.

(f) **Monthly Accounting.** Lender will provide Borrower a monthly accounting of charges and payments, with an accounting of Advances, made pursuant to this Agreement. Such accounting shall be deemed correct, accurate and binding upon Borrower and an account stated (except for reverses and reapplications of payments made as provided in Section 15(g) hereof, and corrections or errors discovered by Lender), unless Borrower notifies Lender in writing to the contrary within thirty (30) days after each accounting is rendered.

3. COLLATERAL.

(a) **Grant of Security Interest.** As security for the Obligations, Borrower hereby pledges, assigns, and grants to Lender a continuing security interest in and lien upon, and a right of setoff against, all of the Collateral, including any Collateral not deemed eligible for Advances. Borrower acknowledges that nothing contained in this Agreement or in any Rider shall be (i) construed as Lender's agreement to resort or look to a particular type of Collateral as security for any loan to Borrower, or limit in any way Lender's right to resort to any or all of the Collateral as security for any of the Obligations, or (ii) deemed to limit or reduce any security interest in or lien upon any portion of the Collateral for the Obligations.

(b) **Perfection and Protection of Security Interest.** Borrower shall, at Borrower's expense, perform all steps requested by Lender at any time to perfect, maintain, protect, and enforce Lender's security interest in the Collateral, including, without limitation, executing and filing financing and continuation statements and amendments thereof, performing searches to confirm the priority of Lender's security interests, placing notations on Borrower's books of account to disclose Lender's security interest therein, delivering to Lender all letters of credit on which Borrower is named beneficiary, and taking such other steps as are deemed necessary by Lender to maintain Lender's control of and security interest in the Collateral. Lender may file, without Borrower's signature, one or more financing statements disclosing Lender's security interest under this Agreement. Borrower agrees that a carbon, photographic, photostatic, or other reproduction of this Agreement or of a financing statement is sufficient as a financing statement. If any Collateral is at any time in the possession or control of any warehouseman, bailee or any of Borrower's agents or processors, Borrower shall notify such person of Lender's security interest in such Collateral and, upon Lender's request, instruct them to hold all such Collateral for Lender's account subject to Lender's instructions. From time to time, Borrower shall, upon Lender's request, execute and deliver confirmatory written instruments pledging to Lender the Collateral, but Borrower's failure to do so shall not affect or limit Lender's security interest or other rights in and to the Collateral. Until all Obligations have been fully satisfied, Lender's security interest in the Collateral shall continue in full force and effect.

(c) **Attorney-in-Fact.** Borrower hereby appoints Lender and any designee of Lender as Borrower's attorney-in-fact and authorizes Lender or such designee, at Borrower's sole expense, to exercise at any time in Lender's or such designee's sole discretion all or any of the following powers, which powers of attorney, being coupled with an interest, shall be irrevocable until all Obligations have been paid in full: (a) receive, take, endorse, assign, deliver, accept and deposit, in Lender's name or Borrower's name, any and all cash, checks, commercial paper, drafts, remittances and other instruments and documents relating to the Collateral or the proceeds thereof, (b) after a Default, transmit to account debtors, other obligors or any bailees notice of Lender's interest in the Collateral or request from account debtors or such other obligors or bailees at any time, in Borrower's or Lender's name or any designee, information concerning the Collateral and any amounts owing with respect thereto, (c) after a Default, notify account debtors or other obligors to make payment directly to Lender, or notify bailees as to the disposition of Collateral, (d) after a Default, take or bring, in Lender's or Borrower's name, all steps, actions, suits or proceedings deemed by Lender to be necessary or desirable to effect collection of or other realization upon the accounts and other Collateral, (e) after a Default, change the address for delivery of mail to Borrower and to receive and open mail addressed to Borrower, (f) after a Default, extend the time of payment of, compromise or settle for cash, credit, return of merchandise, and upon any terms or conditions, any and all accounts or other Collateral which includes a monetary obligation and discharge or release the account debtor or other obligor, without affecting any of the Obligations, and (g) execute financing statements or amendments with respect to the Collateral, against Borrower and in Lender's favor.

4. CHARGES AND INSURANCE.

(a) Lender may at any time, in Lender's sole discretion, discharge any lien or encumbrance or bond the same, pay any insurance, maintain guards, pay any service bureau, or obtain any record and charge the cost thereof to Borrower's Loan Account.

(b) Borrower shall, at all times, insure the Collateral in Lender's name against loss or damage by fire, theft, burglary, pilferage, loss in transit, business interruption and such other hazards as Lender shall specify in amounts, under policies and by insurers acceptable to Lender in its sole discretion. Each policy shall include a provision for ten (10) days' prior written notice to Lender of any cancellation or substantial modification and shall show Lender as mortgagee/secured party, loss payee and additional insured in a manner acceptable to Lender. Borrower shall execute and deliver to Lender, simultaneously herewith and at any other time hereafter, such assignments of policies of insurance, including business interruption insurance, as Lender shall require. Borrower shall pay all and the policies shall be delivered to Lender. If Borrower fails to do so, Lender may, but shall not be obligated to, procure such insurance at Borrower's expense.

5. EXAMINATION OF RECORDS; REPORTING.

(a) Lender may, at all reasonable times, but no less than once every fiscal quarter, have access to, examine, audit, make extracts from and inspect Borrower's records, files, books of account and the Collateral. Borrower shall deliver to Lender any instrument necessary for Lender to obtain records from any service bureau maintaining records for Borrower. All instruments and certificates prepared by Borrower showing the value of any of the Collateral shall be accompanied by copies of related purchase orders and invoices, upon Lender's request. Lender may, at any time after a Default, remove from Borrower's premises any and all books of account and records, or require Borrower to deliver them to Lender. Lender may, at Borrower's expense, use Borrower's personnel, supplies and premises as may be reasonably necessary for maintaining or enforcing Lender's security interest in the Collateral.

(b) Borrower shall furnish, or cause to be furnished, to Lender, information and statements showing Borrower's business affairs, financial condition and the results of Borrower's operations, upon Lender's request. Borrower shall provide to Lender:

(i) photocopies of sales invoices, customer statements and credit memos issued, remittance advices and reports and copies of deposit slips, on a daily basis, upon Lender's request;

(ii) copies of shipping and delivery documents, upon Lender's request;

(iii) an internally prepared income statement and balance sheet of Borrower, in a form consistent with such statements prepared in prior periods, satisfactory to Lender in its sole discretion and prepared in accordance with GAAP, within twenty (20) days after the end of each Interim Financial Statement Period set forth on the Term Sheet,

(iv) annual financial statements of Borrower in a form consistent with such prior year-end statements, satisfactory to Lender in its sole discretion, and audited by independent certified public accountants acceptable to Lender, in accordance with GAAP and, within ninety (90) days after the end of each Fiscal Year of Borrower,

(v) complete copies of all income tax returns and all payroll, sales and use tax returns of Borrower, within ten (10) days of filing (including all extension requests), upon Lender's request, and

(vi) compliance certificates relating to the foregoing as Lender may request, and in form and content acceptable to Lender in its sole discretion.

6. OTHER LIENS. Borrower represents and warrants that all Collateral is and will continue to be owned by Borrower free and clear of all liens, claims and encumbrances whatsoever, whether prior or subordinate to the liens granted to Lender, except for Permitted Liens, if any, as set forth on the Term Sheet; and that Borrower will not, without Lender's prior written approval, which may be withheld in Lender's sole discretion, sell, encumber or dispose of or permit the sale, encumbrance or disposal of any Collateral, except for sales of Inventory in the ordinary course of business.

7. GENERAL WARRANTIES AND REPRESENTATIONS.

Borrower warrants and represents that:

(a) Borrower is a limited liability company, duly organized and existing in good standing under the laws of the Formation State set forth on the Term Sheet, is qualified to do business and is in good standing in all states in which qualification and good standing are necessary in order for Borrower to conduct its business and own its property, and Borrower has all requisite power and authority to conduct its business, to own its property and to execute, deliver and perform all of its Obligations;

(b) Borrower has not, during the preceding five (5) years, been known by or used any other Assumed Names or Trade Names other than as set forth on the Term Sheet;

(c) The execution, delivery and performance by Borrower of this Agreement will not constitute a violation of any applicable law or of Borrower's Articles of Organization or Operating Agreement, or a breach or default under any other agreement, instrument, judgment, order, decree, permit, license or undertaking binding upon or applicable to Borrower or any of its properties;

(d) Borrower possesses adequate assets, licenses, patents, patent applications, copyrights, trademarks, trademark applications, and trade names for the conduct of its business;

(e) Borrower has capital sufficient to conduct its business, is solvent and able to pay its debts as they mature, and owns property having a fair value greater than the amount required to pay Borrower's debts;

(f) Except for trade payables arising in the ordinary course of Borrower's business and except as heretofore disclosed to Lender in writing, Borrower has (i) no pending or threatened litigation, actions or proceedings which would materially and adversely affect its business assets, operations or condition, financial or otherwise, or the Collateral and (ii) no Indebtedness, other than the Obligations;

(g) Borrower has good, indefeasible, and merchantable title to the Collateral, and there is no lien or encumbrance thereon other than the security interest granted to Lender and Permitted Liens as set forth on the Term Sheet;

(h) Borrower is not a party to any contract, or subject to any charge, corporate restriction, judgment, decree or order materially and adversely affecting its business, assets, operations or condition, financial or otherwise, and is not subject to any labor dispute; and, no labor contract is scheduled to expire during the term of this Agreement, except as heretofore disclosed to Lender in writing;

(i) Borrower is not in violation of any applicable statute, regulation or ordinance, in any respect materially and adversely affecting the Collateral or its business, assets, operations or condition, financial or otherwise;

(j) Borrower is not in default with respect to any note, indenture, loan agreement, mortgage, lease, deed or other agreement to which it is a party or bound;

(k) The financial statements delivered to Lender fairly present Borrower's financial condition and results of operations and those of such other Persons described therein as of the date thereof; and there has been no material and adverse change in such financial condition or operations since the date of the statements;

(l) Borrower has received no notice that it is not in full compliance with any of the requirements of the Employee Retirement Income Security Act of 1974, as amended, ("ERISA") and its regulations and, to the best of its knowledge, there exists no event described in Section 4043 of ERISA, excluding subsections 4043(b)(2) and 4043(b)(3) thereof, with respect to Borrower;

(m) Borrower has filed all tax returns and other reports it is required by law to file and has paid all taxes and similar charges that are due and payable;

(n) Borrower's Chief Executive Office, Principal Place of Business and the Location of Collateral Records is at the location set forth on the Term Sheet;

(o) Borrower has not received any notice alleging, and is not aware of, any facts indicating noncompliance with any State or Federal law governing the use, generation, storage or release of any hazardous waste or substance;

(p) Borrower has no Subsidiaries or Affiliates other than as set forth on the Term Sheet. To the extent any Subsidiary or Affiliate is shown on the Term Sheet, neither the assets nor chief executive officer of such Subsidiary or Affiliate is located at one or more of Borrower's locations specified in Section 7(n) hereof, except NanoHolding;

(q) Borrower owns all properties on which Collateral is located other than the Leased Properties set forth on the Term Sheet and Vendor Locations; and

(r) All Collateral which is tangible personal property is kept only at the Collateral Locations, or, in the case of Inventory, at the Collateral Locations or at the Vendor Locations, all as set forth on the Term Sheet.

8. CONDITIONS TO OBLIGATIONS OF LENDER.

(a) **Conditions for Closing.** Lender's obligation to close the Loan hereunder is subject to its receipt of the following documents, fully executed, and completion of the following matters, all in form and substance satisfactory to Lender in its sole discretion:

(i) **Formation Documents.** Certificates of recent date of the appropriate authority or official of Borrower's Formation State (listing all of Borrower's articles of organization and related documents on file in that office if such listing is available) certifying as to Borrower's good standing and existence together with copies of such organizational documents, certified as of a recent date by such authority or official and certified as true and correct as of the date hereof by a duly authorized officer of Borrower;

(ii) **Certification of Good Standing.** Certificates of recent date of the appropriate authority or official of each state in which Borrower is legally qualified to do business, each certifying as to Borrower's good standing;

(iii) **Operating Agreement and Authorizations.** Copies of Borrower's Operating Agreement together with all authorizing resolutions and evidence of other company action taken by Borrower to authorize the execution, delivery and performance by Borrower of this Agreement and the other Loan Documents, and the consummation by Borrower of the transactions contemplated hereby, certified as true and correct as of the date hereof by a duly authorized officer of the Borrower;

(iv) **Incumbency Certificates.** A certificate of incumbency for Borrower containing, and attesting to the genuineness of, the signatures of those officers authorized to act on Borrower's behalf in connection with the Loan Documents to which Borrower and the consummation by it of the transactions contemplated hereby, certified as true and correct as of the date hereof by a duly authorized officer of Borrower;

(v) **Note.** The Revolving Credit Note duly executed by Borrower;

(vi) **Security Documents.** This Loan and Security Agreement duly executed on Borrower's behalf granting to Lender, as collateral security for the Obligations, the Collateral intended to be provided pursuant to Section 3, together with the following in fully executed form:

a. **Recording, Filing, Etc.** Evidence of the recordation, filing and other action (including payment of any applicable taxes or fees) in such jurisdictions as Lender may deem necessary or appropriate with respect to any security interest, including the filing of financing statements and similar documents which Lender may deem necessary or appropriate to create, preserve or perfect the liens, security interests and other rights intended to be granted to Lender thereunder, together with Uniform Commercial Code record searches in such offices as Lender may request;

b. **Validity Guaranty.** A Validity Guaranty constituting the unconditional, unlimited validity guaranty of the Obligations by the Guarantor;

c. **Casualty and Other Insurance.** Evidence that the casualty and other insurance required pursuant to Section 4 of this Agreement is in full force and effect and assignments of policies of insurance as Lender shall require;

d. **UCC Insurance.** A policy of insurance insuring the priority of Lender's security interests in the Collateral as senior to all other security interests in the Collateral in an amount not less than the aggregate amount of the Loans with only such exceptions as are acceptable to Lender and with such endorsements as Lender shall require (the "UCC Policy");

(vii) **Closing Certificate; Borrowing Authorization.** A closing certificate and a borrowing resolution in form satisfactory to Lender, in its sole discretion, duly executed by a duly authorized officer of Borrower;

(viii) **Guarantor Financial Statement.** Receipt and review by Lender of a current personal financial statement of Guarantor which is satisfactory in all respects to Lender;

(ix) **Legal Opinions.** The favorable written opinion of counsel for Borrower with respect to such matters as Lender may reasonably request;

(x) **Consents, Approvals, Etc.** Copies of all governmental and nongovernmental consents, approvals, authorizations, declarations, registrations or filings, if any, required on Borrower's part in connection with the execution, delivery and performance of the Loan Documents or the transactions contemplated hereby or as a condition to the legality, validity or enforceability of the Loan Documents, certified as true and correct and in full force and effect as of the date hereof by Borrower by a duly authorized officer of Borrower, or, if none is required, a certificate of such officer to that effect;

(xi) **Fee.** The balance of the Commitment Fee in the amount of Fifteen Thousand and 00/100 Dollars (\$15,000.00). Any unused amount of the Due Diligence Investigation Fees of Six Thousand Five Hundred and 00/100 Dollars (\$6,500.00) paid to Lender to date shall be credited against amounts due hereunder. The Commitment Fee shall be deemed fully earned upon execution of this Agreement;

(xii) **Payoff Letters and Lien Terminations.** A payoff letter from Fifth Third Bank, an Ohio banking corporation, in form and substance acceptable to Lender, in its sole discretion, together with an authorization for the filing of UCC financing statement terminations and other documents and instruments necessary or reasonably desired by Lender to effect and evidence the release and discharge of all liens and security interests its favor with respect to the Collateral;

(xiii) **Debt Extinguishment.** Borrower shall use the proceeds of the Loan disbursed at Closing to retire and extinguish all Indebtedness of Borrower to Fifth Third Bank;

(xiv) **Merger Documents.** The fully executed Merger Agreement.

(xv) **Receivables Aging.** A Receivables Aging.

(xvi) **Excess Availability.** After the funding of Advances in connection with the transactions contemplated by this Agreement, the Gross Availability (as defined in the Rider) shall be no less than \$200,000.00; and

(xvii) **Other Matters.** Such other documents, and completion of such other matters, as Lender may reasonably request.

(b) **Further Conditions for Disbursement.** Lender's obligation to make any Advance (including the initial Advance) is further subject to the satisfaction of the following conditions precedent:

(i) The representations and warranties contained in Section 7 hereof and in any of the Loan Documents shall be true and correct on and as of the date such Advance is made (both before and after such Advance is made) as if such representations and warranties were made on and as of such date;

(ii) No Default shall exist or shall have occurred and be continuing on the date such Advance is made (whether before or after such Advance is made); and

(iii) In the case of any Advance under the Revolving Credit Loan, Lender shall have received, when due, all Reports required pursuant to Section 5(b) as of the close of business on the last business day of the week next preceding the date such Advance is made.

Borrower shall be deemed to have made a representation and warranty to Lender at the time of the making of, and the continuation or conversion of, each Advance to the effects set forth in clauses (a) and (b) of this Section 8. For purposes of this Section 8(b), the representations and warranties contained in Section 7 hereof shall be deemed made with respect to both the financial statements referred to therein and the most recent financial statements delivered pursuant to Section 5(b).

(c) **Post-Closing Conditions.** After the date hereof, Borrower agrees to provide Lender with the following:

(i) **UCC Searches.** Uniform Commercial Code searches in all jurisdictions in which Lender has filed UCC Financing Statements or in which Borrower conducts business;

(ii) **Evidence of Use of Loan Proceeds.** All documents Lender requires to evidence the use by Borrower of the proceeds of the Loan; and

(iii) **Merger Documents.** Upon consummation of the Merger, copies of each of the following: (a) the fully executed Merger Agreement and all documents and instruments executed in connection therewith, (b) formation documents of NanoHolding, and (c) resolutions of NanoHolding authorizing the Merger.

9. AFFIRMATIVE COVENANTS. Borrower covenants that, so long as any Obligations remain outstanding and this Agreement is in effect, it shall:

(a) Pay to Lender on demand all fees and expenses which Lender incurs in connection with (i) the forwarding of loan proceeds, (ii) the processing of Advances, (iii) the establishment and maintenance of the lock box and of all other accounts created in connection with the transaction contemplated hereby, and (iv) examination of the Collateral;

(b) Promptly file all tax returns and other reports which Borrower is required to file and promptly pay all taxes, assessments and other charges;

(c) Promptly notify Lender in writing of any litigation affecting Borrower, whether or not the claim is covered by insurance, and of any suit or administrative proceeding which may materially and adversely affect the Collateral or Borrower's business, assets, operations or condition, financial or otherwise;

(d) Notify Lender in writing (i) promptly upon the occurrence of any event described in Section 4043 of ERISA, other than a termination, partial termination or merger of a "Plan" (as defined in ERISA) or a transfer of a Plan's assets, and (ii) prior to any termination, partial termination or merger of a Plan or a transfer of a Plan's assets;

(e) Give Lender thirty (30) days' prior written notice of Borrower's opening or closing any place of business;

(f) Maintain Borrower's limited liability company or corporate, as applicable, existence and its qualification and good standing in all states necessary to conduct its business and own its property and maintain adequate assets, licenses, patents, copyrights, trademarks and trade names to conduct its business;

(g) Promptly notify Lender in writing of any labor dispute to which Borrower is or may become subject and the expiration of any labor contract to which Borrower is a party or bound;

(h) Promptly notify Lender in writing of any violation of any law, statute, regulation or ordinance of any governmental entity, or of any agency thereof, applicable to Borrower which may materially and adversely affect the Collateral or its business, assets, operations or condition, financial or otherwise;

(i) Notify Lender in writing within five (5) business days of its default under any note, indenture, loan agreement, mortgage, lease, or other agreement to which Borrower is a party or bound;

(j) Promptly notify Lender in writing of any default under any Indebtedness or indebtedness owing to Borrower;

(k) Execute and deliver to Lender, upon request, such documents and agreements as Lender may, from time to time, reasonably request to carry out the terms and conditions of this Agreement;

(l) Promptly, and in any event within five (5) days of the receipt thereof, deliver any communication in any way concerning any act or omission on Borrower's part regarding the use, generation, storage or release of a hazardous waste or substance. Borrower agrees to indemnify and hold Lender harmless from any and all loss, damage, cost, liability or expense (including reasonable attorneys' fees) arising out of Borrower's use, generation, storage or release of any hazardous waste or substance;

(m) Promptly, and in any event within five (5) days of the receipt thereof, deliver to Lender a copy of any communication from the Federal Department of Labor concerning any alleged act or omission on Borrower's part in connection with the payment of minimum and/or overtime wages to an employee;

(n) Promptly, and in any event within five (5) days of the receipt thereof, deliver to Lender a copy of any communication concerning any violation of a State or Federal law which could result in the forfeiture of the Collateral;

(o) Deliver to Lender photocopies of Borrower's monthly bank statements;

(p) Maintain the liens and security interests granted to Lender as first, prior and only liens upon the Collateral, except for Permitted Liens;

(q) Ensure that at all times the Nanofilm Equityholders beneficially hold voting control of PEN for all purposes;

(r) Maintain at all times balance sheet solvency and liquid assets sufficient to pay all Indebtedness when due; and

(s) Promptly notify Lender in writing of any new Vendor Locations.

10. NEGATIVE COVENANTS. Without Lender's prior written consent, Borrower covenants that, so long as any Obligations remain outstanding and this Agreement is in effect, it shall not:

(a) Merge or consolidate with or acquire any other Person, except for the Merger;

(b) Make any Capital Expenditures materially affecting its business, assets, operations or conditions, financial or otherwise, except as permitted in this Agreement, provided however that for the 2014 calendar year, Borrower may make Capital Expenditures not to exceed \$214,000.00 in the aggregate;

(c) Declare or pay cash dividends upon any of its stock or distribute any of its property or make (except in the ordinary course of business) any loans or extensions of credit, or investments in, any Person, or redeem, retire, purchase or acquire, directly or indirectly any of its stock, or make any material change in its capital structure or in its business or operations which might adversely affect the repayment of the Obligations, except for consummation of the Merger;

(d) Enter into any transaction which materially and adversely affects the Collateral or Borrower's ability to repay the Obligations, including any secondary liens thereon;

(e) Become liable for the indebtedness of any Person, except by endorsement of instruments for deposit;

(f) Incur Indebtedness, other than trade payables arising in the ordinary course of Borrower's business, and the Obligations;

(g) Make a sale to any customer on a bill-and-hold, guaranteed sale, sale and return, sale on approval, consignment, or any other repurchase or return basis;

(h) Remove the Collateral which is tangible personal property from the Collateral Locations set forth on the Term Sheet unless Borrower gives Lender thirty (30) days prior written notice and the same is removed to a location within the continental United States of America;

(i) Use any other corporate or fictitious name;

(j) Prepay any Indebtedness, except the Loan;

(k) Pay salary increases, bonuses or commissions to any principal or officer; or

(l) Open or close any bank accounts.

11. DEFAULT. Any one or more of the following events shall constitute a default (“Default”) under this Agreement:

(a) **Payment.** The failure of Borrower to pay when due, declared due, or Demanded by Lender, any of the Obligations, or the failure of Guarantor to pay when due, declared due, or Demanded by Lender, any of the Guaranteed Obligations;

(b) **Breach of this Agreement and the Loan Documents.** The failure of any Obligor to perform, keep or observe any of the covenants, conditions, promises, agreements or obligations of such Obligor under this Agreement or any of the Loan Documents for more than ten (10) days following receipt of written notice thereof;

(c) **Breaches of Other Obligations.** The failure of Obligor to pay when due or within any applicable grace period any obligation of Obligor in excess of \$20,000.00 (other than its Obligations under this Agreement) for the payment of Indebtedness, or the becoming due and payable, or declaration to be due and payable, of such obligation before the expressed maturity of the obligation, or the occurrence of an event that, with the giving of notice or lapse of time, or both, would cause any such obligation to become, or allow any such obligation to be declared to be, due and payable;

(d) **Breach of Representations and Warranties.** The making or furnishing by any Obligor to Lender of any representation, warranty, certificate, schedule, report or other communication within or in connection with this Agreement or the Loan Documents, or in connection with any other agreement among such Obligor and Lender which is untrue or misleading in any material respect as of the date made;

(e) **Levy, Seizure or Attachment.** The making or any attempt by any Person to make any levy, seizure or attachment upon any of the Collateral;

(f) **Bankruptcy or Similar Proceedings.** The commencement of any proceedings in bankruptcy by or against any Obligor or for the liquidation or reorganization of any Obligor, or alleging that such Obligor is insolvent or unable to pay its debts as they mature, or for the readjustment or arrangement of any Obligor’s debts, whether under the Bankruptcy Code or under any other law, whether state or federal, now or hereafter existing, for the relief of debtors, or the commencement of any analogous statutory or non-statutory proceedings involving any Obligor; provided, however, that if such commencement of proceedings against such Obligor is involuntary, such action shall not constitute a Default unless such proceedings are not dismissed within forty five (45) days after the commencement of such proceedings;

(g) **Appointment of Receiver.** The appointment of a receiver or trustee for any Obligor, for any of the Collateral or for any substantial part of any Obligor's assets or the institution of any proceedings for the dissolution, or the full or partial liquidation, or the merger or consolidation, of any Obligor that is a corporation, limited liability company or a partnership; provided, however, that, if such appointment or commencement of proceedings against such Obligor is involuntary, such action shall not constitute a Default unless such appointment is not revoked or such proceedings are not dismissed within forty five (45) days after the commencement of such proceedings;

(h) **Judgment.** The entry of any judgments or orders aggregating in excess of \$50,000.00 against any Obligor that remain unsatisfied or undischarged and in effect for thirty (30) days after such entry without a stay of enforcement or execution;

(i) **Death or Dissolution of Obligor.** The death of any Obligor who is a natural person, or of any general partner who is a natural person of any Obligor that is a partnership, or any member who is a natural person of any Obligor that is a limited liability company or the dissolution of any Obligor that is a partnership, limited liability company, corporation or other entity, other than in accordance with the terms and conditions of the Merger Agreement;

(j) **Default or Revocation of Guaranty or Collateral Document.** The occurrence of a default or an event of default under, or the revocation or termination of, any agreement, instrument or document executed and delivered by any Person to Lender pursuant to which such Person has guaranteed to Lender the payment of all or any of the Obligations or has granted Lender a Lien upon some or all of such Person's real and/or personal property to secure the payment of all or any of the Obligations;

(k) **Criminal Proceedings.** The institution in any court of a criminal proceeding against any Obligor that would have a material adverse effect on such Obligor, or the indictment of any Obligor for any crime other than vehicle tickets and misdemeanors not punishable by jail terms;

(l) **Change of Control.** The failure at any time of the Nanofilm Equityholders to (1) prior to consummation of the Merger, maintain Nanofilm Voting Control, and (2) after consummation of the Merger maintain PEN Voting Control; provided, however, that Lender shall be notified in writing at least ten (10) days in advance of any issuance of equity interests of Borrower and/or PEN and Lender shall be satisfied that such issuance will not impair the Nanofilm Voting Control or the PEN Voting Control, as applicable;

(m) **Change of Management.** If Scott E. Rickert shall cease to be the Chief Executive Officer or a manager of Borrower at any time;

(n) **Material Adverse Change.** Any material adverse change in the Collateral, business, property, assets, prospects, operations or condition, financial or otherwise of any Obligor, as determined by Lender in its sole judgment or the occurrence of any event which, in Lender's sole judgment, would either (i) impair the prospect of payment or performance of the Obligations or (ii) have Lender believe that the Collateral is not sufficient to secure fully the Obligations;

(o) **Lockbox.** If Borrower fails, within five (5) business days of receipt, to forward proceeds of accounts to the applicable lockbox account, or if Borrower directs any account debtor to make a payment in respect of any such account to any place or account other than the applicable lockbox and such directions are not reversed within five (5) business days; or

(p) **Misrepresentation.** Borrower makes any misrepresentation to Lender or fails to observe or perform any covenants or conditions in connection with this Agreement, any Rider or any other instrument related to the Loan hereto.

OBLIGOR ACKNOWLEDGES THAT WHILE THERE ARE EVENTS OF DEFAULT SET FORTH, THE OBLIGATIONS ARE DUE UPON DEMAND, AND IF DEMAND IS NOT MADE, THEN UPON THE MATURITY DATE OR EXTENDED MATURITY DATE, AS APPLICABLE, SET FORTH IN THE TERM SHEET. DEMAND MAY OCCUR WITH OR WITHOUT THERE BEING AN EVENT OF DEFAULT.

12. LENDER'S RIGHTS AND REMEDIES UPON A DEFAULT.

(a) Upon the occurrence and during the continuance of a Default, or if Lender has made Demand, the Loan shall immediately and automatically terminate and all of the Obligations shall immediately and automatically become due and payable, in each case, without notice of any kind. Upon the occurrence and during the continuance of a Default, at Lender's option, and without Demand, notice or legal process of any kind, the Loan may be terminated and all of the Obligations may be declared, and immediately shall become, due and payable.

(b) Upon the occurrence and during the continuance of a Default, or if Lender has made Demand, Lender may exercise from time to time any rights and remedies available to Lender under the Uniform Commercial Code and any other applicable law in addition to, and not in lieu of, any rights and remedies expressly granted in this Agreement or in any of the Loan Documents and all of Lender's rights and remedies shall be cumulative and non-exclusive to the extent permitted by law. In particular, but not by way of limitation of the foregoing, Lender may, without notice, Demand or legal process of any kind, take possession of any or all of the Collateral (in addition to Collateral of which Lender already has possession), wherever it may be found, and for that purpose may pursue the same wherever it may be found and, may enter onto any of Borrower's premises where any of the Collateral may be, and search for, take possession of, remove, keep and store any of the Collateral until the same shall be sold or otherwise disposed of, and Lender shall have the right to store the same at any of Borrower's premises without cost to Lender. At Lender's request, Borrower shall, at Borrower's expense, assemble the Collateral and make it available to Lender at one or more places to be designated by Lender and reasonably convenient to both parties. Borrower recognizes that if it fails to perform, observe or discharge any of its obligations under this Agreement or the Loan Documents, no remedy at law will provide adequate relief to Lender, and agrees that Lender shall be entitled to temporary and permanent injunctive relief in any such case without the necessity of proving actual damages. Any notification of intended disposition of any of the Collateral required by law will be deemed to be a reasonable authenticated notification of disposition if given at least ten (10) days prior to such disposition and such notice shall (i) describe Lender and Borrower, (ii) describe the Collateral that is the subject of the intended disposition, (iii) state the method of the intended disposition, (iv) state that Borrower is entitled to an accounting of the Obligations and state the charge, if any, for an accounting and (v) state the time and place of any public disposition or the time after which any private sale is to be made. Lender may disclaim any warranties that might arise in connection with the sale, lease or other disposition of the Collateral and has no obligation to provide any warranties at such time. Any proceeds of any disposition by Lender of any of the Collateral may be applied by Lender to the payment of expenses in connection with the Collateral, including, without limitation, legal expenses and reasonable attorneys' fees, and any balance of such proceeds may be applied by Lender toward the payment of the Obligations.

13. WAIVER; AMENDMENTS; SUCCESSORS AND ASSIGNS. Lender's failure to exercise any right, remedy or option under this Agreement or any Rider or other agreement between Lender and Borrower, or delay by Lender in exercising the same will not operate as a waiver. No waiver by Lender will be effective unless in writing and then only to the extent stated. No waiver by Lender shall affect its right to require strict performance of this Agreement. Lender's rights and remedies will be cumulative and not exclusive. This Agreement cannot be changed or terminated orally. All terms, conditions, promises, covenants, provisions and warranties shall inure to the benefit of and bind Lender's and Borrower's respective representatives, successors and assigns.

14. BANKRUPTCY PROVISIONS. In consideration of Lender's agreements hereunder and under the Loan Documents, Borrower agrees that, in the event Borrower (as a "Debtor") files for relief under Title 11 of the United States Code ("Bankruptcy Code") or is otherwise subject to an order for relief under the Bankruptcy Code:

(a) **Relief From Stay.** Lender shall be entitled to relief from the automatic stay imposed by Bankruptcy Code Section 362 on or against the exercise of any and all rights and remedies available to Lender under this Agreement, the Loan Documents or applicable law, if Debtor fails to file a Plan of Reorganization within 120 days or fails to obtain confirmation of a Plan of Reorganization within 180 days, after entry of the order for relief. Borrower specifically acknowledges that "cause" exists for such relief within the meaning of Section 362(d) of the Bankruptcy Code.

(b) **Cash Collateral.** Any attempt by Debtor to use "Cash Collateral" (as defined in Section 363 of the Bankruptcy Code) shall be subject to the prior entry of an order pursuant to Section 363 of the Bankruptcy Code ("Cash Collateral Order") specifically incorporating the principal terms set forth on Schedule 14(b) attached hereto and the Debtor shall under no circumstances seek to use Cash Collateral other than on the terms provided in this Agreement. Any such Cash Collateral Order shall permit the use of Cash Collateral only until the earliest to occur of: (i) a Default under any of the provisions of this Agreement or the Loan Documents (other than a Default occasioned solely by the bankruptcy of Debtor), (ii) the appointment of a Chapter 11 trustee or examiner in Debtor's case, (iii) the dismissal of Debtor's case or its conversion to a case under Chapter 7 of the Bankruptcy Code, or (iv) the entry of an order modifying or terminating the automatic stay or prohibiting the further use of cash collateral. Upon the occurrence of any of the events described in (i) through (iv) of the preceding sentence, Debtor's ability to use Cash Collateral shall terminate immediately and automatically; such termination shall not, however, affect or impair the rights, interests or liens granted to Lender under this Agreement or the other Loan Documents.

All existing and future revenue and cash shall constitute Cash Collateral, subject to Lender's choate, fully perfected and presently enforceable liens and security interests, and, to the extent they are used and consumed by Debtor after filing of the petition or entry of the order for relief, Debtor specifically agrees that they are collateral for Lender's secured claims under Section 506 of the Bankruptcy Code in the amount so used.

To the extent it is determined that Section 552(a) of the Bankruptcy Code applies to limit Lender's interest under the Loan Documents and this Agreement, Lender shall be deemed to have, as adequate protection for the use of Cash Collateral, a continuing perfected protection for the use of Cash Collateral, a continuing perfected post-bankruptcy lien and security interest in all Collateral, and all revenue and cash, whether derived from operations prior to or subsequent to or the filing of a voluntary or involuntary petition for relief with respect to Debtor. As further adequate protection for Debtor's use of Cash Collateral, Debtor shall maintain at all times an adequate and appropriate amount and type of coverage of insurance, including endorsements issued therewith covering the Collateral in amounts not less than that required under the Loan Documents. To the extent that the collateral securing Lender's claims in Debtor's bankruptcy case is deemed or proves to be insufficient to pay its claims in full, Lender's secured claims shall be deemed to have been inadequately protected by the provisions of the Cash Collateral Order, and they shall therefore have administrative expenses of the kind specified in Sections 503(b) and 507(b) of the Bankruptcy Code, which superpriority shall be equal to the priority provided under the provisions of Section 364(c)(1) of the Bankruptcy Code over all other costs and administrative expenses incurred in the case of the kind specified in, or ordered pursuant to, Sections 105, 326, 327, 330, 331, 503(b), 506(c), 507(a), 507(b) or 726 of the Bankruptcy Code and shall at all times be senior to the rights of Debtor or any successor trustee in the resulting bankruptcy proceeding or any subsequent proceeding under the Bankruptcy Code.

During the pendency of Debtor's bankruptcy, if it is determined that any of the rights granted hereunder or by any of the Loan Documents are security interests or liens, they shall be deemed perfected without the necessity of the filing of any documents or commencement of proceedings otherwise required under non-bankruptcy law for the perfection of security interests, with such perfection being binding upon any subsequently appointed trustee, either in Chapter 11 or under any other Chapter of the Bankruptcy Code, and upon other creditors of Debtor who have or may hereafter extend secured or unsecured credit to Debtor.

(c) **Surcharge Waiver.** Debtor and/or any other representative of Debtor's bankruptcy estate waives any right to seek a surcharge of Lender's collateral under 11 U.S.C. § 506(c) or any other provision of applicable law.

(d) **Other Waivers.** Debtor waives any right to seek an order under 11 U.S.C. §§ 363, 364, 1129 or any other provision of the Bankruptcy Code, imposing liens or security interests of senior or equal priority with Lender's liens and security interests in the Collateral or the Cash Collateral.

(e) **Other Actions Not Prohibited.** Nothing contained in this Section 14 shall be deemed to limit or restrict Lender's rights to seek in the bankruptcy court any relief that it may deem appropriate in the event of a bankruptcy commenced by or against Debtor, and in particular, Lender shall be free to seek the dismissal or conversion of any case filed by Debtor, the appointment of a trustee or examiner, and relief from the automatic stay.

15. MISCELLANEOUS.

(a) If any provision of this Agreement shall be prohibited or invalid, under applicable law, it shall be ineffective only to such extent, without invalidating the remainder of this Agreement.

(b) This Agreement shall be interpreted in accordance with the Governing Law of the state set forth on the Term Sheet.

(c) All of Borrower's representations and warranties contained in this Agreement shall survive the execution, delivery and acceptance thereof by the parties.

(d) No termination of this Agreement or of any guaranty of the Obligations shall affect or impair the powers, obligations, duties, rights, warranties, representations or liabilities of the parties hereto and all shall survive such termination.

(e) Each Obligation may, in Lender's sole discretion, be evidenced by notes or other instruments issued or made by Borrower to Lender. If not so evidenced, such Obligation shall be evidenced solely by entries upon Lender's books and records.

(f) Lender may, in its sole discretion: (i) exchange, enforce, waive or release any of the Collateral or (ii) apply Collateral and direct the order or manner without affecting its right to take any other action with respect to any other Collateral.

(g) Lender shall have the continuing and exclusive right to apply or reverse and re-apply any and all payments to any portion of the Obligations. To the extent that Borrower makes a payment or Lender receives any payment or proceeds of the Collateral for Borrower's benefit, which are subsequently invalidated, declared to be fraudulent or preferential, set aside or required to be repaid to a trustee, debtor in possession, receiver or any other party under any bankruptcy law, common law or equitable cause, then, to such extent, the Obligations or part thereof intended to be satisfied shall be revived and continue as if such payment or proceeds had not been received by Lender.

(h) Borrower shall reimburse Lender for all expenses incurred or to be incurred by Lender in connection with (a) the negotiation, preparation and closing of this Agreement; (b) the protection, perfection or preservation of Lender's security interest in or lien upon the Collateral; (c) Lender's inspection or verification of the Collateral; (d) background investigations as Lender deems necessary; (e) any court or bankruptcy proceeding relating to the Agreement or any claim or action by any Person against Lender which would not have been asserted were it not for Lender's relationship with Borrower hereunder or otherwise; (f) actions taken with respect to the Collateral and Lender's security interest or lien therein; and (g) enforcement of any of Lender's rights and remedies with respect to the Obligations or Collateral. The foregoing expenses shall include, without limitation: (i) reasonable fees, costs and expenses of Lender's attorneys and paralegals; (ii) interest on the foregoing at the highest applicable interest rate provided under this Agreement, which shall be part of the Obligations, payable on demand and secured by the Collateral. In addition, Borrower shall pay those fees set forth on the Term Sheet at the times specified therein. In recognition of Lender's right to have all its expenses incurred or to be incurred in connection with this Agreement and the fees due Lender secured by the Collateral, Lender shall not be required to record any discharge of its lien or termination of its security interest unless and until Borrower delivers to Lender a general release acceptable to Lender, in its sole discretion.

(i) Borrower agrees to give Lender written notice of any action or omission by Lender or its agents in connection with this Agreement that may be actionable against Lender or that may be a defense to payment of the Obligations for any reasons. Borrower further agrees that unless such a notice specifically describing the action or omission is given by it within thirty (30) days after it has knowledge or with the exercise of reasonable diligence should have had knowledge of the occurrence of said action or omission, Borrower shall not assert, and Borrower shall be deemed to have waived, any claim or defense arising therefrom.

(j) If Lender breaches its obligation under this Agreement to make an advance, notwithstanding Borrower's conformance with the provisions thereof, Borrower agrees that its sole remedy on account thereof shall be to recover liquidated damages on account of such breach, computed as hereinafter provided, in recognition of the fact that the damages which Borrower might incur are uncertain and speculative. Liquidated damages to which Borrower shall be entitled shall be equal to sixty (60) times the interest payable for one day on the loans outstanding as of the day that Lender is deemed to have failed to fund. In any event, Lender shall never be liable to Borrower for special, indirect or consequential damages, whatever the nature of its breach hereunder.

(k) Borrower authorizes and directs Lender to disburse, for Borrower's account, the proceeds of loans made by Lender to Borrower to such Person as any of Borrower's officers or directors shall direct in writing.

(l) Any notice required hereunder shall be in writing, and addressed to the party to be notified as follows:

If to Lender: Mackinac Commercial Credit, LLC
260 E. Brown Street
Birmingham, Michigan 48009
Attn: Edward P. Lewan

If to Borrower: The Borrower's Address set forth on the Term Sheet.

or to such other address as each party may designate for itself by like notice.

(m) Borrower represents and warrants to Lender that, with respect to the financing transaction herein contemplated, no Person is entitled to any brokerage fee or other commission and Borrower agrees to indemnify and hold Lender harmless against any and all such claims.

(n) The paragraph titles contained in this Agreement are without substantive meaning and are not part of the Agreement.

(o) Borrower hereby releases and exculpates Lender, its officers, employees and designee, from any liability arising from any acts under this Agreement or in furtherance thereof, whether as attorney-in-fact or otherwise, whether of omission or commission, and whether based upon any error of judgment or mistake of law or fact, except for willful misconduct. In no event will Lender have any liability to Borrower for lost profits or other special or consequential damages.

(p) Lender may, at its option, cure any default by Borrower under any agreement with a third party or pay or bond on appeal any judgment entered against Borrower, discharge taxes, liens, security interests or other encumbrances at any time levied on or existing with respect to the Collateral and pay any amount, incur any expense or perform any act which, in Lender's sole judgment, is necessary or appropriate to preserve, protect, insure, maintain, or realize upon the Collateral. Lender may charge Borrower's Loan Account for any amounts so expended, such amounts to be repayable by Borrower on demand. Lender shall be under no obligation to effect such cure, payment, bonding or discharge, and shall not, by doing so, be deemed to have assumed any obligation or liability of Borrower's.

(q) All representations and warranties by Borrower contained in this Agreement or any of the other agreements contemplated herein shall survive the execution and delivery of this Agreement until the termination hereof and the indefeasible satisfaction in full of all Obligations.

16. WAIVER OF JURY TRIAL. BORROWER ACKNOWLEDGES THAT ITS LEGAL COUNSEL HAS ADVISED IT THAT (I) THERE MAY BE A CONSTITUTIONAL RIGHT TO A JURY TRIAL IN CONNECTION WITH ANY CLAIM, DISPUTE OR LAWSUIT ARISING OUT OF THIS AGREEMENT OR ANY RIDER AND (II) SUCH CONSTITUTIONAL RIGHT MAY BE WAIVED. AFTER CONSULTATION WITH ITS COUNSEL (OR OPPORTUNITY TO CONSULT), WHICH HAS INCLUDED BORROWER'S COUNSEL'S REVIEW OF THIS AGREEMENT, BORROWER BELIEVES THAT IT IS IN ITS BEST INTEREST IN THIS COMMERCIAL TRANSACTION TO WAIVE SUCH RIGHT. ACCORDINGLY, BORROWER HEREBY WAIVES ITS RIGHT TO A JURY TRIAL, AND FURTHER AGREES THAT THE BEST FORUM FOR HEARING ANY CLAIM, DISPUTE OR LAWSUIT, IF ANY, ARISING IN CONNECTION WITH THIS AGREEMENT OR ANY RIDER OR BORROWER'S RELATIONSHIP WITH LENDER, SHALL BE A COURT OF COMPETENT JURISDICTION SITTING WITHOUT A JURY.

17. NO ORAL AGREEMENTS. Borrower acknowledges that this Agreement and each Rider represents the final agreement between Lender and Borrower and the terms of such documents may not be contradicted by evidence of prior, contemporaneous, or subsequent oral agreements that may have or will be exchanged between Lender (including its officers, employees and agents) and Borrower.

[Signatures on following page]

IN WITNESS WHEREOF, the parties have caused this Loan and Security Agreement to be executed under seal by their respective duly authorized officers as of the date first above written.

BORROWER:

NANOFILM, LTD.,
an Ohio limited liability company

By: /s/ Scott E. Rickert

Name: Scott E. Rickert

Its: Chief Executive Officer

LENDER:

MACKINAC COMMERCIAL CREDIT, LLC,
a Michigan limited liability company

By: /s/ Edward P. Lewan

Name: Edward P. Lewan

Its: Chief Lending Officer

Schedule 14(b)

CASH COLLATERAL ORDER PRINCIPAL TERMS

In addition to such terms and conditions as Debtor and Lender shall mutually agree, the Cash Collateral Order shall contain the following principal terms:

1. An acknowledgment by Debtor that the indebtedness owed to Lender constitutes the valid and binding obligation of Debtor and is secured by liens and security interests granted by Debtor to Lender in Debtor's tangible and intangible personal property as described in the Loan Documents; and Lender's security interests and liens in the Collateral are valid, properly perfected and recorded and are unavoidable and indefeasible in the pending bankruptcy proceeding; and are not subject to avoidance, defeasance, offset, defense or counterclaim of any kind.

2. Debtor may use Cash Collateral only for "necessary operating expenses." The term "necessary operating expenses" shall be limited to the payment of current taxes incurred after the petition date, unpaid withholding taxes for the last pay period before and pay periods after the petition date, wages and salaries, property insurance, necessary repairs and maintenance, utilities, purchase of inventory and other ordinary charges necessary for Debtor's operations. The term "necessary operating expenses" does not include payments to pay or cure any prepetition obligations of Debtor including any arrearages under any lease, equipment or a statutory contract obligation, except that such expenses may be paid with Lender's prior written consent.

3. All principal, interest, costs and expenses, including reasonable attorneys' fees heretofore, now or hereafter incurred by Lender in connection with the indebtedness or in the administration of this bankruptcy proceeding, and all sums at any time owing by Debtor under this Cash Collateral Order, the Note(s) or any other notes or other agreements with Lender, is and shall continue to be secured by a post-petition first and senior security interest in and lien upon all property of Debtor and property of the estate of whatever kind or nature, acquired by Debtor or the estate on or after the petition date.

4. Lender shall continue to receive all reports as provided under the Loan Documents. Lender shall continue to have access to Debtor's books and records for the purpose of conducting audits of the Collateral. All of the provisions of the Loan Documents shall remain in full force and effect and Debtor shall continue to provide to Lender all other documents and information required to be provided to it under the Loan Documents.

5. Interest will continue to accrue and be paid at the non-default rate or the default rate of interest, whichever is in effect as of the petition date and shall continue to accrue under the Note(s).

6. Until the indebtedness to Lender is repaid in full, Debtor will not, without Lender's prior written consent, engage in any transaction which is not in the ordinary course of its business, including the dispositions of any assets, engaging in any new or different business activities, increase its investment in fixed or capital assets, or create, assume or suffer to exist any lien or security interest in favor of any person other than Lender in any of the collateral.

7. Such other reasonable and ordinary terms and conditions as Lender shall require subject to approval of the bankruptcy court.

Schedule-1

**LOAN AND SECURITY AGREEMENT
DATED AS OF APRIL 4, 2014**

TERM SHEET

Paragraph	Provisions	Terms
2(a)	Maximum Loan Amount:	\$1,500,000.00
2(c)	Interest Rate:	LIBOR Rate plus 7.0%
2(e)	Maturity Date:	Earlier of Demand or April 4, 2015
5(b)(iii)	Interim Financial Statement Period	Monthly
7(a)	Formation State:	Ohio
7(b)	Assumed Names or Trade Names:	None
7(g)	Permitted Liens	U.S. Bank Equipment Finance (UCC Filing No. OH00169414059 – 8/6/13)
7(n)	Chief Executive Office, Principal Place of Business and Location of Collateral Records:	10111 Sweet Valley, Valley View, Ohio 44125
7(p)	Subsidiaries or Affiliates:	NANOHOLDING INC. (Parent – holder of 100% of Class A and Class B stock) Rickert Family Limited Partnership (holder of 100% of NANOHOLDING, INC. Class B voting stock)
7(q)	Leased Properties:	10111 Sweet Valley, Valley View, Ohio 44125 6030 Carey Drive, Valley View, Ohio 44125
7(r)	Collateral Locations:	10111 Sweet Valley, Valley View, Ohio 44125 6030 Carey Drive, Valley View, Ohio 44125
	Vendor Locations:	See attachment hereto
15(b)	Governing Law:	Michigan
15(h)	Fees:	
	(i) Commitment Fee:	1% of the Maximum Loan Amount, payable as of date hereof;
	(ii) Under Utilization Fee:	0.25% of the Loan Amount not drawn, payable monthly;
	(iii) Loan Processing Fee:	0.35% of the average monthly amount outstanding under the Loan, payable monthly;
	(iv) Collateral Evaluation Fee:	\$1,000 per day plus expenses, payable as incurred. All monthly fees are payable with the interest payment; and
	(v) Fees for Lockbox and Other Accounts:	as specified by depository institutions or Lender.
15(L)	Borrower's Address:	10111 Sweet Valley Valley View, Ohio 44125

[Signatures on following page]

Borrower understands that this Term Sheet defines certain terms used in the attached Loan and Security Agreement (“Attachment”). Borrower has read the Attachment and this Term Sheet and fully understands their relationship. By executing both documents, Borrower acknowledges the foregoing.

LENDER:

BORROWER:

MACKINAC COMMERCIAL CREDIT, LLC,
a Michigan limited liability company

NANOFILM, LTD.,
an Ohio limited liability company

By: /s/ Edward P. Lewan

By: /s/ Scott E. Rickert

Name: Edward P. Lewan

Name: Scott E. Rickert

Its: Chief Lending Officer

Its: Chief Executive Officer

Term Sheet-2

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

I, Scott Rickert, Ph.D., certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarterly period ended September 30, 2014 of PEN Inc. (the “registrant”);
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 the registrant as of, and for, the periods presented in this report.
4. The registrant’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 the registrant 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 the registrant, 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 the registrant’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 the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’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 the registrant’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 the registrant’s internal control over financial reporting.

Date: November 14, 2014

/s/ Dr. Scott Rickert

Scott Rickert, Ph.D.
President and Chief Executive Officer

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

I, Adam Wasserman, certify that:

1. I have reviewed this quarterly report on Form 10-Q for the quarterly period ended September 30, 2014 of PEN Inc. (the “registrant”);
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 the registrant as of, and for, the periods presented in this report.
4. The registrant’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 the registrant 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 the registrant, 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 the registrant’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 the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officers and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’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 the registrant’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 the registrant’s internal control over financial reporting.

Date: November 14, 2014

/s/ Adam Wasserman

Adam Wasserman
Chief Accounting Officer

Section 1350 Certification of Principal Executive Officer

In connection with the quarterly report of PEN Inc. (the "Company") on Form 10-Q for the quarterly period ended September 30, 2014, as filed with the Securities and Exchange Commission on the date hereof (the "Report"), I, Scott Rickert, PhD., the President and Chief Executive Officer of the Company, and I Adam Wasserman, Chief Accounting Officer, certify to the best of our knowledge:

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 the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: November 14, 2014

/s/ Scott Rickert

Scott Rickert, PhD.
President and Chief Executive Officer

Date: November 14, 2014

/s/ Adam Wasserman

Adam Wasserman
Chief Accounting Officer
