

NANOPHASE TECHNOLOGIES CORPORATION

Form 10-Q

August 12, 2015

Table of Contents

**UNITED STATES**

**SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

**Form 10-Q**

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

**For the Quarterly Period Ended: June 30, 2015**

**or**

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

**For the transition period from \_\_\_\_\_ to \_\_\_\_\_**

**Commission File Number: 000-22333**

**Nanophase Technologies Corporation**

**(Exact name of registrant as specified in its charter)**

**Delaware**  
**(State or other jurisdiction of**  
**incorporation or organization)**  
**36-3687863**  
**(I.R.S. Employer**  
**Identification No.)**  
**1319 Marquette Drive, Romeoville, Illinois 60446**  
**(Address of principal executive offices, and zip code)**  
**Registrant's telephone number, including area code: (630) 771-6708**

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 web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T 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 definition of "accelerated filer", "large accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

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Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

As of August 7, 2015, there were 28,585,496 shares outstanding of common stock, par value \$.01, of the registrant.

Table of Contents

**NANOPHASE TECHNOLOGIES CORPORATION**

**QUARTER ENDED JUNE 30, 2015**

**INDEX**

|   | <b>Page</b> |
|---|-------------|
| <b><u>PART I - FINANCIAL INFORMATION</u></b>  | <b>3</b>    |
| Item 1. <u>Financial Statements</u>   | 3           |
| <u>Balance Sheets as of June 30, 2015 (unaudited) and December 31, 2014</u>   | 3           |
| <u>Unaudited Statements of Operations for the three months ended June 30, 2015 and 2014 and the six months ended June 30, 2015 and 2014</u> | 4           |
| <u>Unaudited Statements of Cash Flows for the six months ended June 30, 2015 and 2014</u>   | 5           |
| <u>Notes to Unaudited Financial Statements</u>  | 6           |
| Item 2. <u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>  | 10          |
| Item 3. <u>Quantitative and Qualitative Disclosures About Market Risk</u>   | 14          |
| Item 4. <u>Controls and Procedures</u>  | 14          |
| <b><u>PART II - OTHER INFORMATION</u></b>   | <b>14</b>   |
| Item 1. <u>Legal Proceedings</u>  | 14          |
| Item 1A. <u>Risk Factors</u>  | 14          |
| Item 2. <u>Unregistered Sales of Equity Securities and Use of Proceeds</u>  | 16          |
| Item 3. <u>Defaults Upon Senior Securities</u>  | 16          |
| Item 4. <u>Mine Safety Disclosures</u>  | 16          |
| Item 5. <u>Other Information</u>  | 16          |
| Item 6. <u>Exhibits</u>   | 17          |
| <b><u>SIGNATURES</u></b>  | <b>18</b>   |

Table of Contents**PART I - FINANCIAL INFORMATION****Item 1. Financial Statements****NANOPHASE TECHNOLOGIES CORPORATION****BALANCE SHEETS**

|  | (in thousands except share and per share data) |                      |
|--|--|----------------------|
|  | June 30,<br>2015<br>(Unaudited)                | December 31,<br>2014 |
| <b>ASSETS</b>  |  |                      |
| <b>Current assets:</b>   |  |                      |
| Cash and cash equivalents  | \$ 1,156                                       | \$ 1,862             |
| Trade accounts receivable, less allowance for doubtful accounts of \$6 on<br>June 30, 2015 and December 31, 2014 | 1,588  | 388                  |
| Inventories, net   | 535  | 950                  |
| Prepaid expenses and other current assets  | 288  | 367                  |
| <b>Total current assets</b>  | <b>3,567</b>                                   | <b>3,567</b>         |
| Equipment and leasehold improvements, net  | 2,025  | 2,138                |
| Other assets, net  | 24   | 25                   |
|  | \$ 5,616                                       | \$ 5,730             |
| <b>LIABILITIES AND STOCKHOLDERS EQUITY</b>   |  |                      |
| <b>Current liabilities:</b>  |  |                      |
| Current portion of capital lease obligations   | \$ 81  | \$ 70                |
| Line of credit   | 250  |                      |
| Accounts payable   | 685  | 493                  |
| Accrued expenses   | 459  | 413                  |
| <b>Total current liabilities</b>   | <b>1,475</b>                                   | <b>976</b>           |
| Long-term portion of capital lease obligations   | 134  | 121                  |
| Long-term deferred rent  | 570  | 621                  |
| Asset retirement obligations   | 169  | 166                  |
| <b>Total long-term liabilities</b>   | <b>873</b>                                     | <b>908</b>           |

**Stockholders equity:**

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|   |  |          |       |          |
|---|--|----------|-------|----------|
| Preferred stock, \$.01 par value, 24,088 shares authorized and no shares issued and outstanding   |  |          |       |          |
| Common stock, \$.01 par value, 35,000,000 shares authorized; 28,585,496 and 28,516,163 shares issued and outstanding on June 30, 2015 and December 31, 2014, respectively |  | 286      |       | 285      |
| Additional paid-in capital  |  | 96,086   |       | 95,966   |
| Accumulated deficit   |  | (93,104) |       | (92,405) |
| Total stockholders equity   |  | 3,268    |       | 3,846    |
|   |  | \$       | 5,616 | \$       |
|   |  |          |       | 5,730    |

*See Notes to Financial Statements.*

Table of Contents

## NANOPHASE TECHNOLOGIES CORPORATION

## STATEMENTS OF OPERATIONS

(Unaudited)

(in thousands except share and per share data)

|  | Three months ended June 30, |            | Six months ended June 30, |            |
|--|-----------------------------|------------|---------------------------|------------|
|  | 2015                        | 2014       | 2015                      | 2014       |
| <b>Revenue:</b>  |                             |            |                           |            |
| Product revenue  | \$ 2,921                    | \$ 2,848   | \$ 5,221                  | \$ 5,423   |
| Other revenue  | 16                          | 30         | 27                        | 39         |
| Total revenue  | 2,937                       | 2,878      | 5,248                     | 5,462      |
| <b>Operating expense:</b>  |                             |            |                           |            |
| Cost of revenue  | 1,945                       | 1,846      | 3,690                     | 3,723      |
| Gross profit   | 992                         | 1,032      | 1,558                     | 1,739      |
| Research and development expense                                       | 343                         | 336        | 645                       | 673        |
| Selling, general and administrative expense                            | 739                         | 765        | 1,606                     | 1,563      |
| Loss from operations   | (90)                        | (69)       | (693)                     | (497)      |
| Interest income  |                             |            |                           | 1          |
| Interest expense   | (3)                         | (1)        | (6)                       | (3)        |
| Other, net   |                             |            |                           |            |
| Loss before provision for income taxes                                 | (93)                        | (70)       | (699)                     | (499)      |
| Provisions for income taxes  |                             |            |                           |            |
| Net loss   | \$ (93)                     | \$ (70)    | \$ (699)                  | \$ (499)   |
| Net loss per share basic and diluted                                   | \$ (0.00)                   | \$ (0.00)  | \$ (0.02)                 | \$ (0.02)  |
| Weighted average number of basic and diluted common shares outstanding | 28,585,496                  | 28,481,496 | 28,564,133                | 28,481,496 |

*See Notes to Financial Statements.*

**Table of Contents****NANOPHASE TECHNOLOGIES CORPORATION****STATEMENTS OF CASH FLOWS****(Unaudited)**

|   | <b>(in thousands)</b>            |                 |
|---|----------------------------------|-----------------|
|   | <b>Six months ended June 30,</b> |                 |
|   | <b>2015</b>                      | <b>2014</b>     |
| <b>Operating activities:</b>  |                                  |                 |
| Net loss  | \$ (699)                         | \$ (499)        |
| Adjustment to reconcile net loss to net cash used in operating activities:                    |                                  |                 |
| Depreciation and amortization   | 366                              | 371             |
| Stock compensation expense  | 94                               | 107             |
| Changes in assets and liabilities related to operations:                                      |                                  |                 |
| Trade accounts receivable   | (1,202)                          | (936)           |
| Other accounts receivable   |                                  | 1               |
| Inventories   | 415                              | 122             |
| Prepaid expenses and other assets   | 80                               | (50)            |
| Accounts payable  | 201                              | 125             |
| Accrued expenses  | (4)                              | 20              |
| <b>Net cash used in operating activities</b>  | <b>(749)</b>                     | <b>(739)</b>    |
| <b>Investing activities:</b>  |                                  |                 |
| Acquisition of equipment and leasehold improvements   | (184)                            | (102)           |
| Payment of accounts payable incurred for the purchase of equipment and leasehold improvements | (8)                              | (12)            |
| <b>Net cash used in investing activities</b>  | <b>(192)</b>                     | <b>(114)</b>    |
| <b>Financing activities:</b>  |                                  |                 |
| Principal payments on capital leases  | (41)                             | (15)            |
| Proceeds from line of credit  | 250                              |                 |
| Proceeds from exercise of stock options   | 26                               |                 |
| <b>Net cash provided by (used in) financing activities</b>                                    | <b>235</b>                       | <b>(15)</b>     |
| <b>Decrease in cash and cash equivalents</b>  | <b>(706)</b>                     | <b>(868)</b>    |
| Cash and cash equivalents at beginning of period  | 1,862                            | 3,276           |
| <b>Cash and cash equivalents at end of period</b>   | <b>\$ 1,156</b>                  | <b>\$ 2,408</b> |

**Supplemental cash flow information:**



|               |    |   |    |   |
|---------------|----|---|----|---|
| Interest paid | \$ | 6 | \$ | 3 |
|---------------|----|---|----|---|

**Supplemental non-cash investing activities:**

|  |    |    |    |    |
|--|----|----|----|----|
| Accounts payable incurred for the purchase of equipment and leasehold improvements | \$ | 65 | \$ | 25 |
| Capital lease obligations incurred in the purchase of equipment                    | \$ | 65 | \$ |    |

*See Notes to Financial Statements.*

**Table of Contents**

**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS**

**(Unaudited)**

**(in thousands, except share and per share data or as otherwise noted herein)**

**(1) Basis of Presentation**

The accompanying unaudited interim financial statements of Nanophase Technologies Corporation ( Nanophase or the Company , including we , our or us ) reflect all adjustments (consisting of normal recurring adjustments) which, in the opinion of management, are necessary for a fair presentation of our financial position and operating results for the interim periods presented. Operating results for the three and six months ended June 30, 2015 are not necessarily indicative of the results that may be expected for the year ending December 31, 2015.

These financial statements should be read in conjunction with our audited financial statements and notes thereto for the year ended December 31, 2014, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2014, as filed with the Securities and Exchange Commission.

**(2) Description of Business**

Nanophase is an advanced materials and applications developer and commercial manufacturer with an integrated family of nanomaterial and related technologies. We produce engineered nano and larger, sub-micron materials for use in a variety of diverse markets: personal care including sunscreens, architectural coatings, industrial coating applications, abrasion-resistant additives, plastics additives, medical diagnostics, energy, and a variety of surface finishing technologies (polishing) applications. We target markets in which we believe practical solutions may be found using our products. We work closely with current and potential customers in these target markets to identify their material and performance requirements and market our materials to various end-use applications manufacturers. Recently developed technologies have made certain new products possible and opened potential new markets. We recently developed new material solutions in surface finishing technologies (polishing) and energy-management areas that have been taken to potential customers, and for which we are experiencing revenue growth (former) and small early commercial orders, testing and qualification (latter). Although our primary strategic focus has been the North American market, we currently sell material to customers overseas and have been working to expand our reach within foreign markets.

The Company was incorporated in Illinois on November 25, 1989, and became a Delaware corporation in November 1997. Our common stock trades on the OTCQB marketplace under the symbol NANX.

While product sales comprise the overwhelming majority of our revenue, we also recognize revenue from other sources from time to time. These activities are not expected to drive the long-term growth of the business. For this reason we classify such revenue as other revenue in our Statements of Operations, as it does not represent revenue directly from our nanocrystalline materials.

**(3) Financial Instruments**

We follow the Financial Accounting Standards Board ( FASB ) Accounting Standards Codification ( ASC ) Topic 820, Fair Value Measurements and Disclosures, which defines fair value, establishes a framework for measuring fair value,

and expands disclosures about fair value measurements. The fair value framework requires the categorization of assets and liabilities into three levels based upon the assumptions (inputs) used to price the assets or liabilities. Level 1 provides the most reliable measure of fair value, whereas Level 3 generally requires significant management judgment.

**Table of Contents**

Our financial instruments include cash and cash equivalents, accounts receivable, accounts payable and accrued expenses. The fair values of all financial instruments were not materially different from their carrying values.

**(4) Notes**

During July 2014, we entered into a bank-issued letter of credit and related promissory note for up to \$30 in borrowings to support our obligations under our facility lease agreement. No borrowings have been incurred under this promissory note. Should any borrowings occur in the future, the interest rate would be the prime rate plus 1%, with the bank having the right to set off or apply unpaid balances against our checking account if we fail to meet our obligations under any borrowings under the note. It is our intention to renew this note annually, for as long as we need to pursuant to the terms of our facility lease agreement. Because there were no amounts outstanding at any time during 2014 or 2015, we have recorded no related liability on our balance sheet.

During March 2015, we entered into a Business Loan Agreement (the Line of Credit Agreement) with Libertyville Bank and Trust Company, a Wintrust Community Bank (Libertyville), our primary bank. This Line of Credit Agreement was subsequently amended on April 13, 2015. Under the Line of Credit Agreement, as amended, Libertyville will provide a maximum of \$300, or 75% of our eligible accounts receivable, whichever is less, of revolving credit, collateralized by a senior priority lien on our accounts receivable, inventory, equipment, general intangibles and fixtures. Interest on any borrowings would be the prime rate at the time plus 1%. Availability to draw on the line requires us to have at least \$1 million in cash, including any amounts borrowed, at Libertyville on the date of any advance. Advances may only occur at the beginning or end of a fiscal quarter and must be repaid in full within five days of the advance. The Line of Credit Agreement expires on March 4, 2016. Our only drawdown on this line was a borrowing of \$250 on June 29, 2015 that was repaid on July 3, 2015.

**(5) Inventories**

Inventories consist of the following:

|   | June 30, 2015 | December 31, 2014 |
|---|---------------|-------------------|
| Raw materials                             | \$ 255        | \$ 173            |
| Finished goods                            | 332           | 829               |
|   | 587           | 1,002             |
| Allowance for excess inventory quantities | (52)          | (52)              |
|   | \$ 535        | \$ 950            |

**(6) Share-Based Compensation**

We follow FASB ASC Topic 718, *Share-Based Payments*, in which compensation expense is recognized only for share-based payments expected to vest. We recognized compensation expense related to stock options of \$47 and \$94 for the three and six month periods ended June 30, 2015, respectively, compared to \$53 and \$111 for the three and six month periods ended June 30, 2014, respectively.

As of June 30, 2015, there was approximately \$288 of total unrecognized compensation cost related to nonvested share-based compensation arrangements granted under our stock option plans. That cost is expected to be recognized over a remaining weighted-average period of 2.0 years.

**Table of Contents****Stock Options and Stock Grants**

During the six months ended June 30, 2015, 69,333 shares of common stock were issued pursuant to option exercises for proceeds of \$26, while no stock options were exercised during the same period in 2014. During the six months ended June 30, 2015, 446,100 stock options were granted compared to 568,000 stock options granted during the same period in 2014. During the six months ended June 30, 2015, 182,534 stock options were forfeited compared to 22,000 stock options forfeited during the same period in 2014. We had 2,634,566 stock options outstanding at a weighted average exercise price of \$1.00 on June 30, 2015, compared to 2,440,000 stock options outstanding at a weighted average exercise price of \$1.15 on December 31, 2014.

**Stock Appreciation Rights**

Prior to 2011, we granted our outside directors stock appreciation rights (SARs). The change in fair value of the awards granted during prior years is included in non-cash compensation expense for the three and six months ended June 30, 2015 and 2014. The SARs granted vested immediately and are payable upon the directors' removal or resignation from the position of director. These awards are accounted for as liability awards, included in accrued expenses as of June 30, 2015 and 2014, and adjusted to fair value each reporting period. The fair value of the liability was \$1 on both June 30, 2015 and December 31, 2014.

As of June 30, 2015, we did not have any unvested restricted stock or performance shares outstanding.

The following table illustrates the various assumptions used to calculate the Black-Scholes option pricing model for stock options granted during the periods presented:

|   | June 30,<br>2015 | June 30,<br>2014 |
|---|------------------|------------------|
| For the three months ended                          |                  |                  |
| Weighted-average risk-free interest rates:          |                  |                  |
| Dividend yield:                                     |                  |                  |
| Weighted-average expected life of the option:       |                  |                  |
| Weighted-average expected stock price volatility:   |                  |                  |
| Weighted-average fair value of the options granted: |                  |                  |

|   | June 30,<br>2015 | June 30,<br>2014 |
|---|------------------|------------------|
| For the six months ended                            |                  |                  |
| Weighted-average risk-free interest rates:          | 1.74%            | 2.01%            |
| Dividend yield:                                     |                  |                  |
| Weighted-average expected life of the option:       | 7 Years          | 7 Years          |
| Weighted-average expected stock price volatility:   | 95%              | 95%              |
| Weighted-average fair value of the options granted: | \$ 0.44          | \$ 0.42          |

**(7) Significant Customers and Contingencies**

Revenue from three customers constituted approximately 57%, 13% and 9%, respectively, of our total revenue for the three months ended June 30, 2015, and 58%, 9% and 8%, respectively, of our total revenue for the six months ended June 30, 2015. Amounts included in accounts receivable on June 30, 2015 relating to these three customers were approximately \$858, \$181 and \$207, respectively. Revenue from these three customers constituted approximately 68%, none and none, respectively, of our total

**Table of Contents**

revenue for the three months ended June 30, 2014, and 74%, none and 1%, respectively, of our total revenue for the six months ended June 30, 2014. Amounts included in accounts receivable on June 30, 2014 relating to these three customers were approximately \$632, none and none, respectively. The loss of one of these significant customers, a significant decrease in revenue from one or more of these customers, or the failure to attract new customers could have a material adverse effect on our business, results of operations and financial condition.

We currently have exclusive supply agreements with BASF Corporation ( "BASF" ), our largest customer, that have contingencies outlined which could potentially result in the license of technology and/or the sale of production equipment from the Company to the customer intended to provide capacity sufficient to meet the customer's production needs. This outcome may occur if we fail to meet certain performance requirements, certain other obligations and/or certain financial condition covenants. The financial condition covenants in one of our supply agreements with BASF trigger a technology transfer right (license and equipment sale at BASF's option) in the event (a) that earnings for the twelve month period ending with our most recently published quarterly financial statements are less than zero and our cash, cash equivalents and certain investments are less than \$1 million, or (b) of an acceleration of any debt maturity having a principal amount of more than \$10 million. Our supply agreements with BASF also trigger a technology transfer right in the event of our insolvency, as further defined within the agreements. In the event of an equipment sale, upon incurring a triggering event, the equipment would be sold to the customer at either 115% of the equipment's net book value or the greater of 30% of the original book value of such equipment, and any associated upgrades to it, or 115% of the equipment's net book value, depending on the contract and related equipment.

We believe that we have sufficient cash and credit availability (See Liquidity and Capital Resources in Management's Discussion and Analysis in Part I, Item 2 of this Form 10-Q for a further discussion) to operate our business during 2015. If a triggering event were to occur and BASF elected to proceed with the license and related equipment sale mentioned above, we would receive royalty payments from this customer for products sold using our technology; however, we would lose both significant revenue and the ability to generate significant revenue to replace that which was lost in the near term. Replacement of necessary equipment that could be purchased and removed by the customer pursuant to this triggering event could take in excess of twelve months. Any additional capital outlays required to rebuild capacity would probably be greater than the proceeds from the purchase of the assets as dictated by our agreement with the customer. Similar consequences would occur if we were determined to have materially breached certain other provisions of the supply agreement with BASF. Any such event would also likely result in the loss of many of our key staff and line employees due to economic realities. We believe that our employees are a critical component of our success and it could be difficult to replace them quickly. Given the occurrence of any such event, we might not be able to hire and retain skilled employees given the stigma relating to such an event and its impact on us. Finally, any shortfall in capital needed to operate the business as management intends, including with respect to avoiding this triggering event as described above, may result in a curtailment of certain activities or anticipated investments.

Should events arise that make it appropriate for us to seek additional financing, such additional financing may not be available on acceptable terms or even at all, and any such financing could be dilutive to our stockholders. Such a financing could be necessitated by such things as the loss of one or more significant customers or a significant decline in revenue from those customers, currently unknown capital requirements, new regulatory requirements, the need to meet cash requirements under our BASF agreement to avoid a triggering event, or other circumstances not currently anticipated by us. The failure to obtain sufficient capital may impair or curtail our business plans and under such circumstances may raise doubt regarding our ability to continue as a going concern.





## **Table of Contents**

### **(8) Business Segmentation and Geographical Distribution**

Revenue from international sources approximated \$189 and \$564 for the three and six months ended June 30, 2015, respectively, compared to \$398 and \$509 for the same periods in 2014. All of this revenue was product revenue.

Our operations comprise a single business segment and all of our long-lived assets are located within the United States.

## **Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations**

### **Overview**

Nanophase is an advanced materials and applications developer and commercial manufacturer with an integrated family of materials technologies. We produce engineered nano and sub-micron materials for use in a variety of diverse markets: personal care including sunscreens, architectural coatings, industrial coating applications, abrasion-resistant additives, plastics additives, medical diagnostics, energy, and a variety of surface finishing technologies (polishing) applications, including optics. We target markets in which we believe practical solutions may be found using our products. We work closely with current and potential customers in these target markets to identify their material and performance requirements and market our materials to various end-use applications manufacturers. Recently developed technologies have made certain new products possible and opened potential new markets. For example, we have applied our skills at producing precisely defined nanomaterials to now create and sell larger, sub-micron material products. Our focus is on customer need where we believe we have an advantage, as opposed to finding uses for one particular technology. We expect growth in end-user (manufacturing customers, including customers of our customers) adoption in 2015 and beyond. Our initiatives in targeted market areas are progressing at differing rates of speed, but we have been broadly moving through testing and development cycles, and in a number of cases believe we are approaching first revenue or next stage revenue with particular customers in the industries referenced above. For example, during 2014 we developed new solutions in the surface finishing technologies (polishing) and energy-management areas that were presented to potential customers during the year and have already resulted in increasing order flows in the former and significant commercial testing and small early commercial orders in the latter. We believe that successful introduction of our materials with manufacturers may lead to follow-on orders for other materials in their applications. We expect that we will both work more deeply with current customers and attract additional customers, which should help us achieve growth in these markets in 2015 and beyond.

### **Results of Operations**

Total revenue increased to \$2,937,000 for the three months ended June 30, 2015, compared to \$2,878,000 for the same period in 2014. Total revenue decreased to \$5,248,000 for the six months ended June 30, 2015, compared to \$5,462,000 for the same period of 2014. A substantial majority of our revenue for both periods was from our largest customer in personal care and sunscreen applications. The decrease was primarily due to approximately \$1 million in reduced year-over-year volume with this customer during the first half of 2015 (the majority of this reduction occurred during the first quarter of 2015). This decrease was largely offset by significantly increased sales to other customers. Product revenue, the primary component of our total revenue, increased to \$2,921,000 for the three months ended June 30, 2015, compared to \$2,848,000 for the same period in 2014. Product revenue decreased to \$5,221,000 for the six months ended June 30, 2015, compared to \$5,423,000 for the same period in 2014. Revenue from our top three customers was approximately 57%, 13% and 9%, respectively, during the three months ended June 30, 2015, compared to 68%, none and none, respectively, for the same customers during the same period in 2014. Revenue from our top three customers was approximately 58%, 9% and 8%, respectively, during the six months ended June 30, 2015, compared to 74%, none and 1%, respectively, for the same customers during the same period in 2014.



**Table of Contents**

Other revenue decreased to \$16,000 and \$27,000 for the three and six months ended June 30, 2015, compared to \$30,000 and \$39,000 for the same periods in 2014. This was comprised primarily of shipping costs paid by customers, and included a non-recurring fee-based development project completed during 2014.

Cost of revenue generally includes costs associated with commercial production and customer development arrangements. Cost of revenue increased to \$1,945,000 for the three months ended June 30, 2015, compared to \$1,846,000 for the same period in 2014. Cost of revenue decreased to \$3,690,000 for the six months ended June 30, 2015, compared to \$3,723,000 for the same period in 2014. The changes in cost of revenue were primarily driven by the changes in revenue volume. We expect to continue new nanomaterial development, primarily using our NanoArc<sup>®</sup> synthesis and dispersion technologies, for targeted applications and new markets during 2015 and beyond. At current revenue levels we have generated a positive gross margin, though margins have been impeded by not having enough revenue to efficiently absorb manufacturing overhead that is required to work with current customers and expected future customers. We believe that our current fixed manufacturing cost structure is sufficient to support significantly higher levels of production. The extent to which margins grow, as a percentage of total revenue, will be dependent upon revenue mix, revenue volume, our ability to cut costs and pass commodity market-driven raw materials increases on to customers. We expect that product revenue volume increases would result in our fixed manufacturing costs being more efficiently absorbed, leading to increased margins. We expect to continue to focus on reducing controllable variable product manufacturing costs, with potential variability related to the commodity metals markets, but may or may not realize absolute dollar gross margin growth through 2015 and beyond, dependent upon the factors discussed above.

Research and development expense, which includes all expenses relating to the technology and advanced engineering groups, primarily consists of costs associated with the development or acquisition of new product applications and coating formulations and the cost of enhancing our manufacturing processes. As an example, we have been, and continue to be, engaged in research to enhance our ability to disperse material in a variety of organic and inorganic media for use as coatings and polishing materials. Much of this work has led to several new products and additional potential new products.

Having demonstrated the capability to produce pilot quantities of mixed-metal oxides in a single crystal phase, we do not expect development of further variations on these materials to present material technological challenges. Many of these materials exhibit performance characteristics that can enable them to serve in various catalytic applications. We are now working on several related commercial opportunities using the same materials. We expect that this technique should enable us to scale to large quantity commercial volumes once application viability and firm demand are established. We also have an ongoing advanced engineering effort that is primarily focused on the development of new nanomaterials as well as the refinement of existing nanomaterials, as dictated by our customer-driven marketing strategy. We are not certain when or if any significant revenue will be generated from the production of the materials described above.

Research and development expense was \$343,000 and \$645,000 for the three and six months ended June 30, 2015, compared to \$336,000 and \$673,000 for the same periods in 2014. The changes in cost reflect more focused product development activities coupled with the transfer of projects out of research and development and into commercial operations during 2014, resulting in lower costs for salaries and materials, then offset by expenses related to new projects started during 2015. We expect research and development expense for the remainder of 2015 to be consistent with the second quarter of 2015.

Selling, general and administrative expense was \$739,000 and \$1,606,000 for the three and six month periods ended June 30, 2015, compared to \$765,000 and \$1,563,000 for the same periods in 2014. The net changes largely reflect the timing of costs associated with increased marketing and selling activities as we have been actively marketing our

surface finishing (polishing) and energy solutions to customers. We expect total selling, general and administrative expense to continue at similar levels during the remainder of 2015.

## **Table of Contents**

### **Inflation**

We believe inflation has not had a material effect on our operations or financial position. However, supplier price increases and wage and benefit inflation, both of which represent a significant component of our costs of operations, may have a material effect on our operations and financial position in 2015 and beyond if we are unable to pass through any applicable increases under our present contracts or through to our markets in general.

### **Liquidity and Capital Resources**

Our cash, cash equivalents and short-term investments amounted to \$1,156,000 on June 30, 2015, compared to \$1,862,000 on December 31, 2014 and \$2,438,000 on June 30, 2014. The net cash used in our operating activities was \$749,000 for the six months ended June 30, 2015, compared to \$739,000 for the same period in 2014. The net use of cash during 2015 was driven primarily by a significant increase in accounts receivable at the end of the period related to significant order flow during June 2015. Net cash used in investing activities amounted to \$192,000 for the six months ended June 30, 2015, compared to \$114,000 for the same period in 2014. Capital expenditures amounted to \$184,000 and \$102,000 for the six months ended June 30, 2015 and 2014, respectively. Net cash provided by financing activities was \$235,000 for the six months ended June 30, 2015, compared to cash used in financing activities of \$15,000 for the six months ended June 30, 2014, as we borrowed \$250,000 on our working capital line of credit on June 29, 2015, repaying that amount on July 3, 2015. We also entered into \$65,000 of capital leases during the second quarter of 2015 related to the purchase of capital equipment.

Our supply agreements with our largest customer, BASF, contain certain financial covenants which could potentially impact our liquidity. The most restrictive financial covenants under these agreements require that we maintain a minimum of \$1 million in cash, cash equivalents and certain investments, and that we not have the acceleration of any debt maturity having a principal amount of more than \$10 million, in order to avoid triggering the customer's potential right to transfer certain technology and equipment to that customer at a contractually defined price. We had approximately \$1.2 million in cash and cash equivalents on June 30, 2015, including a \$250,000 borrowing on our working capital line of credit which was subsequently repaid on July 3, 2015. This supply agreement and its covenants are more fully described in Note 7, and our line of credit is more fully described in Note 4, to our Financial Statements in Part I, Item 1 of this Form 10-Q.

We believe that cash from operations and cash, cash equivalents and unused borrowing capacity will be adequate to fund our operating plans through 2015. Our actual future capital requirements in 2015 and beyond will depend, however, on many factors, including customer acceptance of our current and potential nanomaterials and product applications, continued progress in research and development activities and product testing programs, the magnitude of these activities and programs, and the costs necessary to increase and expand our manufacturing capabilities and to market and sell our materials and product applications. Other important issues that will drive future capital requirements will be the development of new markets and new customers as well as the potential for significant unplanned growth with existing customers. Depending on the success of certain projects, we expect that capital spending relating to currently known capital needs for the remainder of 2015 will be between \$100,000 and \$150,000. If those projects are delayed or ultimately prove unsuccessful, we would expect our capital requirements to be lower. If other projects are successful the total capital spending may be higher than \$150,000 for the remainder of 2015.

Should events arise that make it appropriate for us to seek additional financing, such additional financing may not be available on acceptable terms or even at all, and any such additional financing could be dilutive to our stockholders. Such financing could be necessitated by such things as the loss of one or



## **Table of Contents**

more existing customers or a significant decrease in revenue from those customers; currently unknown capital requirements in light of the factors described above; new regulatory requirements that are outside our control; the need to meet previously discussed cash requirements to avoid a triggering event under our BASF agreement; or various other circumstances coming to pass that we currently do not anticipate. The failure to obtain sufficient capital to fund our business plans may result in a curtailment or other change in those plans, and under such circumstances may raise doubt as to our ability to continue as a going concern.

On June 30, 2015, we had a net operating loss carryforward of approximately \$80 million for income tax purposes. Because we may have experienced ownership changes within the meaning of the U.S. Internal Revenue Code in connection with our various prior equity offerings, future utilization of this carryforward may be subject to certain limitations as defined by the Internal Revenue Code. If not utilized, the carryforward will expire at various dates between January 1, 2018 and December 31, 2034. As a result of the annual limitation and uncertainty as to the amount of future taxable income that will be earned prior to the expiration of the carryforward, we have concluded that it is likely that some portion of this carryforward will expire before ultimately becoming available to reduce income tax liabilities.

Changes in Illinois state law that began in 2011 will impact net loss carryforward duration and utilization on the state tax level.

## **Off Balance Sheet Arrangements**

We have not created, and are not party to, any special-purpose or off-balance sheet entities for the purposes of raising capital, incurring debt or operating our business. We do not have any off-balance sheet arrangements or relationships with entities that are not consolidated into our financial statements that are reasonably likely to materially affect our liquidity or the availability of capital resources.

As more fully described in Note 4 to our Financial Statements, in Part I, Item I of this Form 10-Q, during 2014 we entered into a letter of credit and promissory note for up to \$30,000 supporting our obligations under our facility lease agreement. No borrowings have been incurred under this promissory note.

## **Safe Harbor Provision**

We want to provide investors with more meaningful and useful information. As a result, this Quarterly Report on Form 10-Q (the "Form 10-Q") contains and incorporates by reference certain forward-looking statements, as defined in Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). These statements reflect our current expectations of the future results of our operations, performance and achievements. Forward-looking statements are covered under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. We have tried, wherever possible, to identify these statements by using words such as "anticipates", "believes", "estimates", "expects", "plans", "intends" and similar expressions. These statements reflect management's current beliefs and are based on information now available to it. Accordingly, these statements are subject to certain risks, uncertainties and contingencies that could cause our actual results, performance or achievements in future reporting periods to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and factors include, without limitation: our ability to become profitable despite the losses we have incurred since our incorporation; our dependence on our principal customers and the terms of our supply agreements with BASF which could trigger a requirement to transfer technology and/or sell equipment to that customer; our potential inability to obtain working capital when needed on acceptable terms or at all; our ability to obtain materials at costs we can pass through to our customers, including Rare Earth elements, specifically cerium oxide; uncertain demand for, and acceptance of, our nanocrystalline materials; our manufacturing capacity and product mix





## **Table of Contents**

flexibility in light of customer demand; our limited marketing experience; changes in development and distribution relationships; the impact of competitive products and technologies; our dependence on patents and protection of proprietary information; the resolution of litigation or other legal proceedings in which we may become involved; our ability to maintain an appropriate electronic trading venue for our securities; and the impact of any potential new governmental regulations that could be difficult to respond to or costly to comply with. In addition, our forward-looking statements could be affected by general industry and market conditions and growth rates. Readers of this Quarterly Report on Form 10-Q should not place undue reliance on any forward-looking statements. Except as required by federal securities laws, we undertake no obligation to update or revise these forward-looking statements to reflect new events or uncertainties.

### **Item 3. Quantitative and Qualitative Disclosures About Market Risk**

Not required for a smaller reporting company.

### **Item 4. Controls and Procedures**

#### **Disclosure controls**

We are responsible for establishing and maintaining disclosure controls and procedures that are designed to ensure that information required to be disclosed by us in the reports filed by us under the Exchange Act is: (a) recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms; and (b) accumulated and communicated to our management, including our principal executive and principal financial officers, to allow timely decisions regarding required disclosures. It should be noted that in designing and evaluating our disclosure controls and procedures, we recognize that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and that our management necessarily was required to apply its judgment regarding the design of our disclosure controls and procedures. As of the end of the period covered by this report, we conducted an evaluation, under the supervision (and with the participation) of our management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures pursuant to Rules 13a-15(e) and 15d-15(e) of the Exchange Act. Based on that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that our disclosure controls and procedures were effective at reaching that level of reasonable assurance.

#### **Internal control over financial reporting**

The Company's management, including the CEO and CFO, confirm that there was no change in the Company's internal control over financial reporting during the period covered by this report that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

## **PART II OTHER INFORMATION**

### **Item 1. Legal Proceedings**

We are not a party to any pending legal proceedings or claims that we believe will result in a material adverse effect on our business, financial condition, or operating results.

**Item 1A. Risk Factors**

In addition to the information set forth in this Quarterly Report on Form 10-Q and before deciding to invest in, or retain, shares of our common stock, you also should carefully review and consider the

## Table of Contents

information contained in our other reports and periodic filings that we make with the Securities and Exchange Commission, including, without limitation, the information contained under the caption Part I, Item 1A Risk Factors in our Annual Report on Form 10-K for the year ended December 31, 2014. Those risk factors could materially affect our business, financial condition and results of operations. Additional risks and uncertainties that we do not currently know about, we currently believe are immaterial or we have not predicted may also harm our business operations or adversely affect us. If any of these risks or uncertainties actually occurs, our business, financial condition, results of operations, cash flows or stock price could be materially adversely affected. Other than as set forth below, and as set forth in Part II, Item 1A in our Quarterly Report on Form 10-Q for the three months ended March 31, 2015, there have been no material changes from the risk factors previously disclosed in our Annual Report on Form 10-K for the year ended December 31, 2014.

***We may need to raise additional capital in the future, which may not be available on acceptable terms or at all. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms or we may be required to sell key production equipment to our largest customer.***

We expect to expend resources on research, development and product testing, and in expanding current capacity or capability for new business. In addition, we may incur significant costs in preparing, filing, prosecuting, maintaining and enforcing our patents and other proprietary rights. We may also need additional financing because of the loss of one or more existing customers or a significant decrease in revenue from those customers. If necessary, we may seek additional funding through public or private financing and through contracts with governmental entities or other companies. Additional financing may not be available on acceptable terms or at all. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms, which circumstances could raise doubt regarding our ability to continue as a going concern. If we obtain funding on unfavorable terms, we may be required to relinquish rights to some of our intellectual property.

To raise additional funds in the future, we would likely sell our equity or debt securities or enter into additional loan agreements. To the extent that we issue debt securities or enter into additional loan agreements, we may become subject to financial, operational and other covenants that we must observe. In the event that we were to breach any of these covenants, then the amounts due under such loans or debt securities could become immediately payable by us, which could significantly harm us. To the extent that we sell additional shares of our equity securities, our stockholders may face economic dilution and dilution of their percentage of ownership.

We currently have a supply agreement with BASF that contains provisions which could potentially result in a mandatory license of technology and/or sale of production equipment to BASF, providing capacity sufficient to meet BASF's production needs. Under our supply agreement with BASF, a triggering event also would occur:

if our earnings for a twelve month period ending with our most recently published quarterly financial statements are less than zero and our cash, cash equivalents and certain investments are less than \$1 million, or

upon the acceleration of any debt maturity having a principal amount of more than \$10 million, or if we become insolvent as defined in the supply agreement.

In the event of a triggering event where we are required to sell to BASF production equipment providing capacity sufficient to meet BASF's production needs, the equipment would be sold at either 115% of the equipment's net book

value or at the greater of 30% of the original book value of such equipment (including any associated upgrades to it) or 115% of the equipment's net book value, depending on the particular equipment and contract.

**Table of Contents**

If we were determined to have materially breached certain other provisions of our supply agreement with BASF, we similarly could be subject to a triggering event that potentially could result in a mandatory license of technology and/or sale of certain production equipment to the customer.

We believe that our current cash balances and other assets that might be monetized if and as needed, as well as unused capacity that might be available for short-term borrowings, will be sufficient to avoid the first triggering event under the BASF supply agreement during 2015, and because we only had \$250,000 of short-term debt that has been subsequently repaid, the second triggering event is not currently applicable to us.

If a triggering event were to occur and BASF elected to proceed with the license and related sale mentioned above, we would lose both significant revenue and the ability to generate significant revenue to replace that which was lost in the near term. Replacement of necessary equipment that would be purchased and removed by the customer pursuant to this triggering event could take in excess of 12 months. Any additional capital outlays required to rebuild capacity would probably be greater than the proceeds from the purchase of the assets pursuant to our agreement with BASF. This potential shortfall might put us in a position where it would be difficult to secure additional funding given what would then be an already tenuous cash position. Such an event would also likely result in the loss of many of our key staff and line employees due to economic realities. We believe that our employees are a critical component of our success and would be difficult to quickly replace and train. Upon the occurrence of such an event, we might not be able to hire and retrain skilled employees given the stigma relating to such an event and its impact on us. We might elect to effectively reduce our size and staffing to a point where we could remain a going concern in the near term.

**Item 2. Unregistered Sales of Equity Securities and Use of Proceeds**

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Mine Safety Disclosures**

Not applicable.

**Item 5. Other Information**

None.

**Table of Contents**

**Item 6. Exhibits**

- Exhibit 10.1 Change in Terms Agreement and Business Loan Agreement, as amended, dated April 13, 2015, between the Company and Libertyville Bank and Trust Company
- Exhibit 31.1 Certification of Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
- Exhibit 31.2 Certification of Chief Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
- Exhibit 32 Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350.
- Exhibit 101 The following materials from Nanophase Technologies Corporation's Quarterly Report on Form 10-Q for the quarter ended June 30, 2015, formatted in XBRL (Extensible Business Reporting Language): (1) the Balance Sheets, (2) the Statements of Operations, (3) the Statements of Cash Flows, and (4) the Notes to Unaudited Financial Statements.

Table of Contents

**SIGNATURES**

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

NANOPHASE TECHNOLOGIES CORPORATION

Date: August 12, 2015

By: /s/ JESS A. JANKOWSKI  
Jess A. Jankowski  
President and Chief Executive Officer

Date: August 12, 2015

By: /s/ FRANK J. CESARIO  
Frank J. Cesario  
Chief Financial Officer