

NANOPHASE TECHNOLOGIES CORPORATION

Form 10-Q

November 10, 2008

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## 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: September 30, 2008

.. **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: 0-22333

## Nanophase Technologies Corporation

(Exact name of registrant as specified in its charter)

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**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 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):

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

On November 6, 2008, there were 21,188,912 shares of common stock outstanding, par value \$.01, of the registrant.

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**NANOPHASE TECHNOLOGIES CORPORATION**

**QUARTER ENDED SEPTEMBER 30, 2008**

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

	September 30, 2008	December 31, 2007
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 609,529	\$ 563,075
Investments	8,360,040	16,145,844
Trade accounts receivable, less allowance for doubtful accounts of \$13,000 on September 30, 2008 and December 31, 2007, respectively	1,194,829	1,403,206
Other receivable, net	392	
Inventories, net	1,406,695	1,085,364
Prepaid expenses and other current assets	371,725	298,464
<b>Total current assets</b>	<b>11,943,210</b>	<b>19,495,953</b>
Investments	6,000,000	
Equipment and leasehold improvements, net	6,891,418	7,409,666
Other assets, net	593,576	781,266
	<b>\$ 25,428,204</b>	<b>\$ 27,686,885</b>
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>Current liabilities:</b>		
Current portion of deferred other revenue	106,062	127,273
Current portion of capital lease obligations	31,357	43,110
Accounts payable	615,965	238,295
Accrued expenses	1,618,878	1,584,656
Accrued severance	770,088	
<b>Total current liabilities</b>	<b>3,142,350</b>	<b>1,993,334</b>
Long-term debt, less current maturities and unamortized debt discount	1,555,359	1,512,507
Long-term portion of capital lease obligations	11,217	31,430
Deferred other revenue, less current portion		74,243
	<b>1,566,576</b>	<b>1,618,180</b>
<b>Contingent liabilities:</b>		
<b>Stockholders equity:</b>		
Preferred stock, \$.01 par value, 24,088 shares authorized and no shares issued and outstanding	211,565	210,881

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Common stock, \$.01 par value, 30,000,000 shares authorized; 21,156,536 and 21,088,068 shares issued and outstanding on September 30, 2008 and December 31, 2007, respectively		
Additional paid-in capital	91,414,746	90,201,131
Accumulated deficit	(70,907,033)	(66,336,641)
Total stockholders' equity	20,719,278	24,075,371
	\$ 25,428,204	\$ 27,686,885

*See Notes to Financial Statements.*

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

	Three months ended September 30,		Nine months ended September 30,	
	2008	2007	2008	2007
<b>Revenue:</b>				
Product revenue, net	\$ 1,967,061	\$ 2,442,890	\$ 7,721,408	\$ 9,252,306
Other revenue	111,906	111,233	356,072	333,762
Total revenue	2,078,967	2,554,123	8,077,480	9,586,068
<b>Operating expense:</b>				
Cost of revenue	1,789,049	2,012,938	5,625,533	6,817,462
Gross profit	289,918	541,185	2,451,947	2,768,606
Research and development expense	443,241	405,650	1,298,175	1,379,819
Selling, general and administrative expense	1,146,640	1,296,510	4,366,153	4,067,727
Severance charges	1,578,859		1,578,859	
Loss from operations	(2,878,822)	(1,160,975)	(4,791,240)	(2,678,940)
Interest income	82,301	232,605	330,311	421,434
Interest expense	(29,410)	(34,968)	(100,969)	(102,188)
Other (expense) income, net	(8,651)	191	(8,494)	(68,906)
Loss before provision for income taxes	(2,834,582)	(963,147)	(4,570,392)	(2,428,600)
Provisions for income taxes				
Net loss	\$ (2,834,582)	\$ (963,147)	\$ (4,570,392)	\$ (2,428,600)
Net loss per share-basic and diluted	\$ (0.13)	\$ (0.05)	\$ (0.22)	\$ (0.12)
Weighted average number of common shares outstanding-basic and diluted	21,150,568	20,962,150	21,129,369	19,686,578

*See Notes to Financial Statements.*

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

	<b>Nine months ending September 30,</b>	
	<b>2008</b>	<b>2007</b>
<b>Operating activities:</b>		
Net loss	\$ (4,570,392)	\$ (2,428,600)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	982,273	1,073,611
Amortization of debt discount	42,853	95,248
Amortization of deferred revenue	(95,454)	(95,454)
Stock compensation expense	591,160	413,597
Severance expenses related to the immediate vesting of stock options	592,785	
Allowance for excess inventory quantities		26,179
Loss on disposal of equipment	11,792	
Equipment write-off		69,587
Abandonment of pending patents	193,894	
Changes in assets and liabilities related to operations:		
Trade accounts receivable	208,377	(21,627)
Other receivable	(392)	
Inventories	(321,331)	(763,291)
Prepaid expenses and other assets	(73,261)	91,685
Accounts payable	345,066	116,389
Accrued liabilities	799,891	(95,855)
Net cash used in operating activities	(1,292,739)	(1,518,531)
<b>Investing activities:</b>		
Proceeds for disposal of equipment	1,800	8,100
Acquisition of equipment and leasehold improvements	(405,118)	(954,588)
Acquisition of patents	(36,425)	(157,414)
Payment of accounts payable incurred for the purchase of equipment and leasehold improvements	(5,318)	(60,900)
Purchases of investments	(176,315,399)	(91,353,618)
Sales of investments	178,101,203	83,275,286
Net cash provided by (used in) investing activities	1,340,743	(9,243,134)
<b>Financing activities:</b>		
Principal payment on debt obligation, including capital leases	(31,967)	(28,699)
Proceeds from sale of common stock, net, and exercise of stock options	30,417	11,221,559
Net cash (used in) provided by financing activities	(1,550)	11,192,860
Increase in cash and cash equivalents	46,454	431,195
Cash and cash equivalents at beginning of period	563,075	132,387
Cash and cash equivalents at end of period	\$ 609,529	\$ 563,582

**Supplemental cash flow information:**

Interest paid	\$	61,346	\$	6,938
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**Supplemental non-cash investing and financing activities:**

Accounts payable incurred for the purchase of equipment and leasehold improvements	\$	37,922	\$	124,989
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*See Notes to Financial Statements.*



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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS**

**(Unaudited)**

**(1) Basis of Presentation**

The accompanying unaudited interim financial statements of Nanophase Technologies Corporation ( Nanophase or the Company ) reflect all adjustments (consisting of normal recurring adjustments) which, in the opinion of management, are necessary for a fair presentation of the financial position and operating results of the Company for the interim periods presented. Operating results for the three and nine month periods ended September 30, 2008 are not necessarily indicative of the results that may be expected for the year ended December 31, 2008.

These financial statements should be read in conjunction with the Company's audited financial statements and notes thereto for the year ended December 31, 2007, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2007, as filed with the Securities and Exchange Commission.

**(2) Description of Business**

Nanophase is a nanomaterials developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterial products for use in a variety of diverse existing and developing markets: sunscreens, personal care, architectural coatings, industrial coating ingredients, abrasion-resistant applications, plastic additives, water filtration, DNA biosensors, antimicrobial products and a variety of polishing applications, including semiconductors and optics. New markets and applications are also being developed. Nanophase targets markets in which it feels practical solutions may be found using nanoengineered products. The Company works with leaders in these targeted markets to identify and supply their material and performance requirements. The Company was incorporated in Illinois on November 25, 1989, and became a Delaware corporation on November 30, 1997. The Company's common stock trades on the NASDAQ Global Market under the symbol NANX.

The Company also recognizes regular other revenue in connection with its promissory note to BYK Chemie and from a technology license. These activities are not expected to drive the long-term growth of the business. Both the deferred and license revenue are recognized as other revenue in the Company's Statement of Operations, as they do not represent revenue directly from the Company's nanocrystalline materials.

**(3) Financial Instruments**

On January 1, 2008, the Company adopted SFAS 157, Fair Value Measurements, which defines fair value, establishes a framework for measuring fair value, and expands disclosures about fair value measurements. However, the FASB issued FSP SFAS 157-2 which deferred the effective date of SFAS 157, until the beginning of our 2009 fiscal year, as it relates to fair value measurement requirements for nonfinancial assets and liabilities that are not remeasured at fair value on a recurring basis. The adoption of SFAS 157 did not affect the Company's results of operations or its cash flows from operating, investing or financing activities.

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. The three levels are defined as follows:

*Level 1:* Unadjusted quoted prices in active markets for identical assets and liabilities.

*Level 2:* Observable inputs other than those included in Level 1. For example, quoted prices for similar assets or liabilities in active markets or quoted prices for identical assets or liabilities in inactive markets.

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*Level 3:* Unobservable inputs reflecting management's own assumptions about the inputs used in pricing the asset or liability. As of September 30, 2008, the fair values of our financial assets and liabilities are approximately categorized as follows:

	Total	Level 1	Level 2	Level 3
<b>Financial Assets</b>				
Cash equivalents	\$ 610,000	\$ 610,000	\$	\$
Investments <sup>(a)</sup>	6,000,000		6,000,000	
Available-for-sale securities <sup>(b)</sup>	8,330,000	8,330,000		
Held-to-maturity investments <sup>(c)</sup>	30,000	30,000		
Total financial assets at fair value	\$ 14,970,000	\$ 8,970,000	\$ 6,000,000	\$
<b>Financial Liabilities</b>				
Long-term debt <sup>(d)</sup>	\$ 1,555,000	\$	\$ 1,555,000	\$

- (a) Based on defined rates for auction rate securities dependent on the participation of willing buyers (see Note 4). The Company has adopted FSP SFAS 157-3, determining the fair value of a financial asset when the market is not active. The consideration of FSP SFAS 157-3 did not materially effect the carrying value of the securities.
- (b) Based on the price of United States Treasury Bill and corporate bonds.
- (c) Based on stated bank rates.
- (d) Based on an average quarterly variable interest rate at LIBOR plus a margin of 1%. As more fully described in Note 7 to the financial statements in the Company's annual report on Form 10-K for the year ended December 31, 2007, this note was obtained from BYK-Chemie USA, a subsidiary of Altana and a customer of Nanophase and is net of a debt discount attributed to an interest free period at the beginning of the loan.

**(4) Investments**

Investments on September 30, 2008 and December 31, 2007 were comprised of auction rate securities, certificates of deposit, a money market fund and U.S. Treasury Bills. Included among them are investments of \$30,000 made on September 30, 2008 and on December 31, 2007, in the form of certificates of deposit which are

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pledged as collateral, primarily for the Company's rent in 2008 and 2007, and is restricted as to withdrawal or usage. Investments held in short-term securities of deposit typically have maturity days of less than 30 days.

As of September 30, 2008, the Company's remaining investments in auction rate securities totaled \$6 million. These three auction rate securities (ARS) in the Company's investment portfolio have experienced failed auctions due to a lack of available buyers for them on their expected auction dates. An auction failure means that parties wishing to sell their securities could not be matched with an adequate volume of buyers. In the event there is a failed auction the indenture governing the security requires the issuer to pay interest at a contractually defined rate that is generally above market rates for other types of similar short-term instruments. Despite these failed auctions, there have been no defaults on the underlying securities and investment income on these ARS holdings. They have been issued through the Federal Family Education Loan Program (FFELP or FFELPs Loans) and carry an AAA credit rating. These FFELPs Loans are guaranteed to 97% of their \$6 million value by the Department of Education, limiting any credit risk relating to these securities. Although a liquidity short-fall may exist from auction to auction, the Company is not aware of any changes to ratings or other indicators of a permanent decline in value. Accordingly, the Company believes the carrying value of its investments approximates fair value. Due to the continued uncertainty of the duration of these failed auctions and management's assessment, during the three months ended September 30, 2008, the Company has reclassified these investments as long-term assets on the Company's balance sheet on September 30, 2008. The Company's investments on September 30, 2008 and December 31, 2007 were as follows:

	September 30, 2008	December 31, 2007
Auction rate securities	\$ 6,000,000	\$ 14,175,000
United States Treasury Bill	8,321,183	
Money market fund		1,898,262
Certificates of deposit	30,000	30,000
Accrued interest	8,857	42,582
	\$ 14,360,040	\$ 16,145,844

**(5) Inventories**

Inventories consist of the following:

	September 30, 2008	December 31, 2007
Raw materials	\$ 270,201	\$ 180,293
Finished goods	1,179,140	1,274,604
	1,449,341	1,454,897
Allowance for excess inventory quantities	(42,646)	(369,533)
	\$ 1,406,695	\$ 1,085,364

For the nine months ended September 30, 2008, the Company disposed of approximately \$327,000 in fully reserved finished goods that are no longer in production. Changes to the allowance for the other periods presented in 2008 and 2007 were not material to the financial statements.

**(6) Share-Based Compensation**

The Company follows SFAS 123(R), Share-Based Payments, in which compensation expense is recognized only for share-based payments expected to vest. The Company recognized compensation expense related to stock options of \$150,971 and \$489,112 for the three and nine months ended September 30, 2008, compared to \$122,199 and \$346,841 for the same periods in 2007.



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As of September 30, 2008, there was approximately \$875,000 of total unrecognized compensation cost related to nonvested share-based compensation arrangements granted under the Company's stock option plans. That cost is expected to be recognized over a remaining weighted-average period of 3.9 years.

**Employees Stock Options and Stock Grants**

During the nine months ended September 30, 2008, 16,667 shares of common stock were issued pursuant to option exercises compared to 149,931 shares for the same period in 2007. For the nine months ended September 30, 2008, 330,000 shares of stock options were granted compared to 110,000 shares for the same period in 2007. For the nine months ended September 30, 2008, 101,721 shares of stock options were forfeited compared to 259,938 shares for the same period in 2007. For the nine months ended September 30, 2008, 45,701 shares were issued in the form of restricted stock grant to the Company's outside directors compared to 17,988 shares for the same period in 2007.

**Restricted Stock**

For the three months ended September 30, 2008 and 2007, the Company was to grant its outside directors 19,739 and 5,874 shares of deferred common stock compared to 45,701 and 17,988 shares for the nine months ended September 30, 2008 and 2007, respectively, under the Company's 2005 Non-Employee Director Restricted Stock Plan. However, each outside director elected to defer receipt of the restricted stock until the termination of their services to the Company. The deferral of restricted stock is being accounted for under the Company's Non-Employee Director Deferred Compensation Plan. The fair value of the awards granted for the three months ended September 30, 2008 and 2007 was \$45,000 and \$36,000 compared to \$135,000 and \$108,000 for the nine months ended September 30, 2008 and 2007, respectively, for the restricted share rights and is included in stock-based compensation expense for the three and nine months ending September 30, 2008 and 2007, respectively.

The following table illustrates the various director grants and their fair value of the awards for the periods presented:

Name	Number of deferred shares granted For the three months ended September 30,		Number of deferred shares granted For the nine months ended September 30,	
	2008	2007	2008	2007
	Donald S. Perkins, Chairman of the Board of Directors	3,618	979	8,414
James A. McClung, Chairman of the Audit and Finance Committee	2,961	979	6,862	2,998
James A. Henderson, Chairman of the Nominating Committee	2,632	979	6,085	2,998
Jerry K. Pearlman, Chairman of the Compensation and Governance Committee	2,632	979	6,085	2,998
Richard W. Siegel, Ph.D.	2,632	979	6,085	2,998
George A. Vincent, III	2,632		6,085	
R. Janet Whitmore	2,632	979	6,085	2,998
	19,739	5,874	45,701	17,988

  

Name	Deferred Stock Awards (\$) For the three months ended September 30,		Deferred Stock Awards (\$) For the nine months ended September 30,	
	2008	2007	2008	2007
	Donald S. Perkins, Chairman of the Board of Directors	\$ 8,250	\$ 6,000	\$ 24,750
James A. McClung, Chairman of the Audit and Finance Committee	\$ 6,750	\$ 6,000	\$ 20,250	\$ 18,000
James A. Henderson, Chairman of the Nominating Committee	\$ 6,000	\$ 6,000	\$ 18,000	\$ 18,000
Jerry K. Pearlman, Chairman of the Compensation and Governance Committee	\$ 6,000	\$ 6,000	\$ 18,000	\$ 18,000
Richard W. Siegel, Ph.D.	\$ 6,000	\$ 6,000	\$ 18,000	\$ 18,000
George A. Vincent, III	\$ 6,000	\$	\$ 18,000	\$
R. Janet Whitmore	\$ 6,000	\$ 6,000	\$ 18,000	\$ 18,000
	\$ 45,000	\$ 36,000	\$ 135,000	\$ 108,000



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On September 27, 2005, the Company granted 33,333 shares of restricted stock rights at market value consisting of 16,666 restricted share rights and 16,667 performance share rights. The restricted share rights vest in lump sum or cliff vest on September 27, 2008, provided the grantee has not terminated service prior to the vesting date. The performance share rights terminated due to the Company not meeting certain performance goals or milestones on or before January 30, 2009. The Company used an estimated forfeiture rate of 4.28% for performance shares for the period ending September 30, 2008 compared to 5.4% for the same period in 2007. For the three and nine months ended September 30, 2008, the stock-based compensation (recovery) expense was (\$15,293) and (\$3,756) for the restricted share rights compared to (\$3,701) and \$9,002 for the same periods in 2007. For the three and nine months ended September 30, 2008, the stock-based compensation (recovery) expense was (\$21,993) and (\$29,319) for the performance share rights compared to \$7,082 and \$11,198 for the same periods in 2007 totaling (\$37,286) and (\$33,075) compared to \$3,381 and \$20,200 in stock-based compensation expense for the three and nine months ending September 30, 2008 and 2007, respectively.

For the three months ended September 30, 2008 and 2007 no options were granted. The following table illustrates the various assumptions used to calculate the Black-Scholes option pricing model for the periods presented:

	For the three months ended September 30,		For the nine months ended September 30,	
	2008	2007	2008	2007
Weighted-average risk-free interest rates:			3.44%	4.71%
Dividend yield:				
Weighted-average expected life of the option:			7 Years	7 Years
Weighted-average expected stock price volatility:			75.08%	83.02%
Weighted-average fair value of the options granted:			\$ 2.26	\$ 4.50

**(7) Significant Customers and Contingencies**

Revenue from three customers constituted approximately 51%, 22% and 13% for the three months ended September 30, 2008, compared to 40%, 30% and 13% of the Company's total revenue for the nine months ended September 30, 2008. Amounts included in accounts receivable on September 30, 2008 relating to these three customers were approximately \$396,000, \$185,000 and \$271,000, respectively. Revenue from these three customers constituted approximately 48%, 21% and 5% of the Company's total revenue for the three months ended September 30, 2007, compared to 45%, 29% and 3% for the nine months ended September 30, 2007. Amounts included in accounts receivable on September 30, 2007 relating to these three customers were approximately \$623,000, \$193,000 and \$139,000, respectively.

The Company currently has supply agreements with BASF Corporation (BASF), the Company's largest customer, and Rohm and Haas Electronic Materials CMP, Inc. (RHEM), as well as a joint technology development agreement with Altana Chemie AG, that have contingencies outlined in them which could potentially result in the license of technology and/or the sale of production equipment, providing capacity sufficient to meet the customer's production needs, from the Company to the customer, if triggered by the Company's failure to meet certain performance requirements, certain other obligations and/or certain financial condition covenants. The financial condition covenants in one of the Company's supply agreements with BASF, its largest customer, as amended, triggers a technology transfer (license and, optionally, an equipment sale) in the event (a) that earnings of the Company for a twelve-month period ending with its most recently published quarterly financial statements are less than zero and its cash, cash equivalents and investments are less than \$2,000,000, (b) of an acceleration of any debt maturity having a principal amount of more than \$10,000,000, or (c) of the Company's insolvency, as further defined within the agreement. In the event of an equipment sale, upon incurring a triggering event, the equipment would be sold to the customer at 115% of the equipment's net book value. Under another of the Company's supply agreements with BASF, upon the Company's breach of its contractual obligations to BASF, the Company would be required to

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sell BASF certain production equipment at 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.

The Company believes that it has sufficient cash and investment balances to avoid the first triggering event under the supply agreement with BASF for the foreseeable future. If a triggering event were to occur and BASF elected to proceed with the license and related sale mentioned above, the Company would receive royalty payments from this customer for products sold using the Company's technology; however, the Company 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 the Company's agreement with the customer. Similar consequences would occur if the Company were determined to have materially breached certain other provisions of its supply agreement with BASF, its supply agreement with RHEM or the Company's joint technology development agreement with Altana Chemie. Any such event would also result in the loss of many of the Company's key staff and line employees due to economic realities. The Company believes that its employees are a critical component of its success and could be difficult to replace and train quickly. Given the occurrence of any such event, the Company might not be able to hire and retain skilled employees given the stigma relating to such an event and its impact on the Company.

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

Revenue from international sources approximated \$128,000 and \$576,000 for the three and nine months ended September 30, 2008, compared to \$150,000 and \$556,000 for the same periods in 2007. As part of its revenue from international sources, the Company recognized approximately \$128,000 in product revenue from several German companies and \$225,000 in other revenue from a technology license fee from its Japanese licensee for the nine months ended September 30, 2008 compared to \$198,000 and \$225,000 for the same period in 2007, respectively.

The Company's operations comprise a single business segment and all of the Company's long-lived assets are located within the United States.

### **(9) Administrative Actions**

In February 2004, an unidentified party filed a Request for Reexamination of US Patent No. 6,669,823 B1 in the U.S. Patent and Trademark Office, or USPTO. US Patent No. 6,669,823 B1 relates to certain parts of one of the Company's nanoparticle manufacturing processes, NanoArc Synthesis. After substantial prosecution of the reexamination, the USPTO on February 5, 2008 issued an Ex Parte Reexamination Certificate wherein the USPTO cancelled all the claims in the one patent that was under reexamination. As a result, the Company's ability to assert infringement claims and suits against others using the same or sufficiently similar technology now has been limited. The Company currently has pending applications for a continuation patent and a divisional patent reflecting what the Company believes to be the most critical attributes of the reexamined patent. Regardless of the ultimate disposition of these two pending patent applications, the Company still will be able to conduct its business as currently conducted, including its use of the technology that was the subject of the reexamined patent claims. Thus, while the Company does not agree with the USPTO's reasons for canceling the claims of the reexamined patent, the Company does not believe that the cancellation of these claims materially alters the competitive environment in which the Company operates or results in a material loss. As a result of the cancellation of claims in connection with the patent re-examination, the Company had write-offs of approximately \$131,000.

### **(10) Severance Charges**

In the third quarter of 2008, the Company announced the resignations of Mr. Joseph E. Cross, its then-current President and Chief Executive Officer and Mr. Kevin J. Wentz, its then-current Executive Vice-President of Sales and Marketing along with Mr. Edward Ludwig its then-current Vice-President of Business Development. As a result of



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these resignations, the Company incurred \$1,578,859 in severance charges. Included in these charges were salaries and benefits, accelerated vesting of stock options (non-cash) and other expenses. Mr. Joseph E. Cross was replaced by Mr. Jess Jankowski as Acting Chief Executive Officer. In addition to his new duties, Mr. Jankowski will continue to serve the Company as Vice President of Finance and Chief Financial Officer. Also, in the third quarter of 2008, the Company appointed Ms. Nancy Baldwin to the position of Vice President, Human Resources and Information Technology of the Company, Dr. Patrick Murray to the position of Vice President, Research and Development of the Company and Mr. David Nelson to the position of Vice President, Sales and Marketing of the Company.

### **(11) New Accounting Pronouncements**

In May 2008, the FASB issued SFAS 162, *The Hierarchy of Generally Accepted Accounting Principles*. SFAS 162 is effective 60 days following the SEC's approval of the Public Company Accounting Oversight Board Auditing amendments to AU Section 411, *The Meaning of Present Fairly in Conformity with Generally Accepted Accounting Principles*. SFAS 162 is intended to improve financial reporting by identifying a consistent hierarchy for selecting accounting principles to be used in preparing financial statements that are presented in conformity with accounting principles generally accepted in the United States of America. The Company does not believe that adoption of SFAS 162 will have a material impact on its financial statements.

In March 2008, the FASB issued SFAS 161, *Disclosures about Derivative Instruments and Hedging Activities*, which amends SFAS 133. SFAS 161 requires enhanced disclosures about an entity's derivative and hedging activities to discuss the underlying risks that an entity intends to manage as well as accounting designation. This Statement is effective for fiscal years beginning after November 15, 2008. The Company does not believe that adoption of SFAS 161 will have a material effect on its financial statements.

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

### **Overview**

Nanophase is a nanomaterials developer and commercial manufacturer with an integrated family of nanomaterial technologies. Nanophase produces engineered nanomaterials for use in a variety of diverse markets: sunscreens, architectural coatings, industrial coatings, ingredients, personal care, abrasion-resistant applications, antimicrobial products, plastics additives, water filtration, DNA biosensors and a variety of polishing applications, including semiconductors and optics. The Company targets markets in which it feels practical solutions may be found using nanoengineered products. The Company works closely with leaders in these target markets to identify their material and performance requirements and market its own materials to various end-use applications manufacturers. Newer developed technologies have made certain new products possible and opened potential new markets. With the commercialization of the Company's NanoAr<sup>®</sup> synthesis and new dispersion technologies in 2002, and the expansion of these capabilities in 2003 and 2004, Nanophase has been focusing on penetrating the chemical-mechanical-planarization (CMP) and fine polishing markets. CMP is the process of polishing various types of integrated circuits or chips to be used in various commercial electronics applications. Management believes that the Company's inroads in the CMP and fine polishing markets would have been very difficult without the Company being able to produce its materials to exacting specifications verified by in-house and customer-based testing. Management expects growth in end-user (customers of Nanophase's customers) adoption in 2009 and beyond and revenue growth in both of these areas to follow thereafter. Additionally, the Company feels that its relationship with Altana Chemie GmbH (Altana), a global ingredients supplier to various coatings industries, together with sales to certain other customers as permitted under the terms of the Company's relationship with Altana, may lead to growth in several of our abrasion-resistant applications in the marketplace. Management further expects that the Company will develop additional customers to help it achieve growth in 2009 and beyond.

On July 2, 2007, the Company issued and sold 1,900,000 shares of common stock to certain institutional investors at a purchase price of \$5.92 per share and received gross proceeds of \$11.2 million.

On August 25, 2006, the Company sold, in a private placement to Rohm and Haas Electronic Materials CMP Holdings, Inc., 847,918 shares of common stock at \$5.90 per share and received gross proceeds of \$5.0 million.

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On November 3, 2005, BYK-Chemie USA, a subsidiary of Altana and a customer of Nanophase, lent \$1,597,420 to Nanophase pursuant to the terms of a Promissory Note effective October 27, 2005. This loan was for the purchase and installation of additional dispersion capacity and an additional NanoArc<sup>®</sup> synthesis reactor to allow both for quicker material and application development, which should help to speed market penetration, and the ability to fulfill orders on a commercial scale for additional materials in varying media. The equipment was commissioned on November 1, 2006.

From its inception in November 1989 through December 31, 1996, the Company was in the development stage. During that period, the Company primarily focused on the development of its manufacturing processes in order to transition from laboratory-scale to commercial-scale production. As a result, the Company developed an operating capacity to produce significant quantities of its nanomaterials for commercial sale. The Company was also engaged in the development of commercial applications and formulations and the recruiting of marketing, technical and administrative personnel. Since January 1, 1997, the Company has been engaged in commercial production and sales of its nanomaterials, and the Company no longer considers itself in the development stage. From inception, the Company was primarily capitalized through the private offerings of approximately \$32.0 million of equity securities prior to its initial public offering, its initial public offering of \$28.8 million of common stock in November of 1997, its private offering of \$6.2 million of common stock in May of 2002, its private offering of \$1.95 million of common stock in September of 2003, its receipt of a customer's equity investment of \$9.3 million in March 2004 and its private offering of \$1.95 million of common stock in September of 2004 (through the conversion of warrants that were attached to its September 2003 offering), its receipt of a customer's equity investment of \$4.9 million in August 2006 and its offering of \$10.5 million of common stock in July 2007 pursuant to a registration statement declared effective by the SEC on May 31, 2007, each net of issuance costs. The Company has incurred cumulative losses of \$71 million from inception through September 30, 2008.

## **Results of Operations**

Total revenue decreased to \$2,078,967 and \$8,077,480 for the three and nine months ended September 30, 2008, compared to \$2,554,123 and \$9,586,068 for the same periods in 2007. A substantial majority of the Company's revenue for the three and nine month periods ended September 30, 2008 is from the Company's three largest customers. See Note 7 to the Financial Statements for additional information regarding the revenue the Company derived from these three customers for the three and nine month periods ended September 30, 2008. Product revenue decreased to \$1,967,061 and \$7,721,408 for the three and nine months ended September 30, 2008, compared to \$2,442,890 and \$9,252,306 for the same periods in 2007. The decrease in product revenue was primarily attributed to decreased sales from the Company's largest customer, a portion of which management attributes to inventory issues, and a decrease in sales to its architectural coatings customer, which may have been impacted by last year's volume being increased due to a product introduction and this year's volume may have been impacted by the current state of the housing market, as well as decreased sales to BYK-Chemie. These decreases were partially offset by increased sales to Rohm and Haas Electronic Materials. The Company and its largest customer currently have a technology agreement in place that has led to the joint development of the second generation of sunscreen nanomaterials for other potential personal care applications.

Other revenue increased to \$111,906 and \$356,072 for the three and nine months ended September 30, 2008, compared to \$111,233 and \$333,762 for the same periods in 2007. This increase was primarily attributed to the Company recognizing revenue in connection with a research evaluation project.

The majority of the total revenue generated during the nine-month period ended September 30, 2008 was from the Company's largest customer in healthcare (sunscreens), from an application in architectural coatings (the Company's second largest customer) and from sales to Rohm and Haas Electronic Materials.

Cost of revenue generally includes costs associated with commercial production and customer development arrangements. Cost of revenue decreased to \$1,789,049 and \$5,625,533 for the three and nine months ended September 30, 2008, compared to \$2,012,938 and \$6,817,462 for the same periods in 2007. The decrease in cost of revenue was generally attributed to decreased revenue volume along with decreases in commodity metals pricing, reduction in manufacturing overhead and the Company's continued efficiencies in reducing its remaining variable manufacturing costs on nanomaterials. These decreases were partially offset by inefficiencies due to incomplete utilization of production assets. Nanophase expects to continue new nanomaterial development, primarily using its

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NanoArc® synthesis and dispersion technologies, for targeted applications and new markets through 2008 and beyond. At current revenue levels the Company has generated a positive gross margin. The Company's margins have been somewhat impeded by not having enough revenue to absorb the manufacturing overhead that is required to work with current customers and expected future customers. Management believes that the current fixed manufacturing cost structure is sufficient to support significantly higher levels of production, given current revenue mix and resultant product revenue. The extent to which the Company's margins continue to grow, as a percentage of total revenue, will be dependent upon revenue mix, revenue volume, the Company's ability to continue to cut costs and the Company's ability to pass commodity market-driven raw materials increases on to its customers. As product revenue volume increases, this will result in more of the Company's fixed manufacturing costs being absorbed, leading to increased margins. The Company expects to continue to focus on reducing its controllable variable product manufacturing costs through 2008 and beyond, with potential offsetting increases in the commodity metals markets, but may or may not continue to see absolute dollar gross margin growth through 2008 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 Company's development or acquisition of new product applications and coating formulations and the cost of enhancing the Company's manufacturing processes. In another example, the Company has been and continues to be engaged in research to enhance its ability to disperse its 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 for use by BYK-Chemie and other customers of Nanophase.

Now that the Company has demonstrated the capability to produce pilot quantities of mixed-metal oxides in a single crystal phase, the Company does 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. This development has been driven largely by customer demand. Management is now working on several related commercial opportunities. The Company expects that this technique should not be difficult to scale to large quantity commercial volumes once application viability and firm demand are established. The Company also has an ongoing advanced engineering effort that is primarily focused on the development of new nanomaterials as well as the refinement of existing nanomaterials. The Company is not certain when or if any significant revenue will be generated from the production of the materials described above.

Research and development expense increased to \$443,241 for the three months ended September 30, 2008, compared to \$405,650 for the same period in 2007. Research and development expense decreased to \$1,298,175 for the nine months ended September 30, 2008, compared to \$1,379,819 for the same period in 2007. The increase for the three months ended September 30, 2008 was primarily due to increases in stock compensation (non-cash) and materials and supplies expense partially offset by decreases in salaries expense. The decrease for the nine months ended September 30, 2008 was primarily due to decreases in salaries and outside testing expense partially offset by increases in stock compensation (non-cash) and materials and supplies expense. The Company does not expect research and development expense to increase significantly for the remainder of 2008.

Selling, general and administrative expense decreased to \$1,146,640 for the three months ended September 30, 2008, compared to \$1,296,510 for the same period in 2007. Selling, general and administrative expense increased to \$4,366,153 for the nine months ended September 30, 2008, compared to \$4,067,727 for the same period in 2007. The decrease for the three months ended September 30, 2008 was primarily due to decreases in salaries, state annual franchise tax and consulting fees partially offset by increases in legal fees and patent write-offs. The increase for the nine months ended September 30, 2008 was primarily due to increases in patent and trademark write-offs (primarily relating to the cancellation of patent claims in connection with the patent re-examination discussed in Note 9), stock compensation expense (non-cash), legal and professional fees and recruiting expenses. These increases were partially offset by decreases in consulting fees, salaries and investor relations expenses.

In the third quarter of 2008, the Company announced the resignations of Mr. Joseph E. Cross, its then-current President and Chief Executive Officer and Mr. Kevin J. Wenta, its then-current Executive Vice-President of Sales and Marketing along with Mr. Edward Ludwig its then-current Vice-President of Business Development. As a result of these resignations, the Company incurred \$1,578,859 of severance charges. Included in these charges were salaries and benefits, accelerated vesting of stock options (non-cash) and other expenses. Mr. Joseph E. Cross was replaced

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by Mr. Jess Jankowski as Acting Chief Executive Officer. In addition to his new duties, Mr. Jankowski will continue to serve the Company as Vice President of Finance and Chief Financial Officer. Also, in the third quarter of 2008, the Company appointed Ms. Nancy Baldwin to the position of Vice President, Human Resources and Information Technology of the Company, Dr. Patrick Murray to the position of Vice President, Research and Development of the Company and Mr. David Nelson to the position of Vice President, Sales and Marketing of the Company.

Interest income decreased to \$82,301 and \$330,311 for the three and nine months ended September 30, 2008, compared to \$232,605 and \$421,434 for the same periods in 2007. The decrease was primarily due to decreased investment yields partially offset by increases in funds available for investment, largely composed of the July 2, 2007 equity investment from certain institutional investors which resulted in net proceeds of approximately \$10.5 million.

### **Inflation**

Management believes inflation has not had a material effect on the Company's operations or on its financial position. However, supplier price increases and wage and benefit inflation, both of which represent a significant component of the Company's costs of operations, may have a material effect on the Company's operations and financial position in 2009 and beyond, if the Company is unable to pass through those increases under its present contracts, or through to its markets in general.

### **Liquidity and Capital Resources**

The Company's cash, cash equivalents and short-term investments amounted to \$8,969,569 on September 30, 2008, compared to \$16,708,919 on December 31, 2007 and \$17,076,707 on September 30, 2007. On June 30, 2008, the Company reclassified its auction rate securities in the amount of \$6 million as long-term investments. The net cash used in the Company's operating activities was \$1,292,739 for the nine months ended September 30, 2008, compared to \$1,518,531 for the same period in 2007. Net cash provided by investing activities, which is due to maturities of securities and to a lesser extent capital expenditures offset partially by purchases of securities, amounted to \$1,340,743 for the nine months ended September 30, 2008 compared to \$9,243,134 of net cash used for the same period in 2007. Capital expenditures amounted to \$405,118 and \$954,588 for the nine months ended September 30, 2008 and 2007, respectively. Net cash used in financing activities is due to principal payments on capital lease obligations partially offset by the issuance of shares of common stock pursuant to the exercise of options, amounting, in total, to \$1,550 for the nine months ended September 30, 2008 compared to \$11,192,860 of net cash provided by financing activities, primarily due to the Company securing financing through an equity investment in July 2007, for the same period in 2007.

On July 2, 2007, the Company issued and sold 1,900,000 shares of common stock pursuant to a registration statement filed on May 22, 2007 and declared effective by the SEC on May 31, 2007 to certain institutional investors at a purchase price of \$5.92 per share, for an aggregate purchase price of \$11.2 million and net proceeds of approximately \$10.5 million.

The Company's supply agreement with its largest customer contains several financial covenants which could potentially impact the Company's liquidity. The most restrictive financial covenants under this agreement require the Company to maintain a minimum of \$2.0 million in cash, cash equivalents and investments and that the Company not have the acceleration of any debt maturity having a principal amount of more than \$10,000,000, in order to avoid triggering a transfer of certain technology and sale of related equipment to the Company's largest customer. The Company had approximately \$15 million in cash, cash equivalents and investments and debt net of unamortized debt discount of less than \$1.7 million on September 30, 2008. This supply agreement and its covenants are more fully described in Note 7 to the Company's Financial Statements. See "Risk Factors - We may need to raise additional capital in the future" in our Annual Report on Form 10-K for the year ended December 31, 2007.

The Company believes that cash from operations, the net proceeds of \$10.5 million from its July 2, 2007 Offering, and cash, cash equivalents and investments on hand and interest income thereon, will be adequate to fund the Company's operating plans for the foreseeable future. The Company's actual future capital requirements in 2009 and beyond will depend, however, on many factors, including customer acceptance of the Company's current and potential nanomaterials and product applications, continued progress in the Company's research and development activities and product testing programs, the magnitude of these activities and programs, and the costs necessary to

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increase and expand the Company's manufacturing capabilities and to market and sell the Company's 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 the Company's existing customers. The Company expects that capital spending relating to currently known capital needs for the remainder of 2008 will be approximately \$300,000, but could be even greater due to the factors discussed above.

As of November 3, 2008, the Company's investments in auction rate securities totaled \$6 million. These three auction rate securities (ARS) in the Company's investment portfolio have experienced failed auctions due to a lack of available buyers for them on their expected auction dates. An auction failure means that the parties wishing to sell their securities could not be matched with an adequate volume of buyers. In the event that there is a failed auction the indenture governing the security requires the issuer to pay interest at a contractually defined rate that is generally above market rates for other types of similar short-term instruments. Despite these failed auctions, there have been no defaults on the underlying securities and investment income on these ARS holdings. They have been issued through the Federal Family Education Loan Program (FFELP or FFELPs Loans) and carry an AAA credit rating. These FFELPs Loans are guaranteed to 97% of their \$6 million value by the Department of Education, limiting any credit risk relating to these securities. Although a liquidity short-fall may exist from auction to auction, the Company is not aware of any changes to ratings or other indicators of a permanent decline in value. Accordingly, the Company believes that the carrying value of investments approximates fair value.

Should events arise that make it appropriate for the Company to seek additional financing, it should be noted that additional financing may not be available on acceptable terms or at all, and any such additional financing could be dilutive to the Company's stockholders. Such a financing could be necessitated by such things as the loss of existing customers; currently unknown capital requirements in light of the factors described above; new regulatory requirements that are outside the Company's control; the need to meet previously discussed cash requirements to avoid a triggering event; or various other circumstances coming to pass that are currently not anticipated by the Company.

On September 30, 2008, the Company had a net operating loss carryforward of approximately \$77.3 million for income tax purposes. Because the Company may have experienced ownership changes within the meaning of the U.S. Internal Revenue Code in connection with its various prior equity offerings, future utilization of this carryforward may be subject to certain limitations as defined by the Internal Revenue Code. A layer of the Company's carryforward will expire in 2008. If not utilized, the remaining carryforward expires at various dates between 2009 and 2027. 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, the Company has concluded that it is likely that some portion of this carryforward will expire before ultimately becoming available to reduce income tax liabilities.

## **Contractual Obligations**

There has been no material change outside the ordinary course of business in the Company's contractual obligations during the third quarter of 2008. Please see the Company's Annual Report on Form 10-K for the year ended December 31, 2007 for a discussion of its contractual obligations.

## **Off-Balance Sheet Arrangements**

The Company has not created, and is not party to, any special-purpose or off-balance sheet entities for the purposes of raising capital, incurring debt or operating the Company's business. Nanophase does not have any off-balance sheet arrangements or relationships with entities that are not consolidated into the Company's financial statements that are reasonably likely to materially affect Nanophase's liquidity or the availability of capital resources.

## **Credit Environment**

The credit markets continue to be volatile and have experienced a shortage in overall liquidity due to the sub-prime lending industry. The Company neither engages in any business activities in the mortgage industry, nor does it hold mortgage-backed securities in its investment portfolio. Overall the liquidity shortage in the marketplace includes Auction Rate Securities. The Company believes it has sufficient liquidity from its cash and investment accounts, particularly when viewed by the ongoing trend towards

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reduced cash used in operations. Please see Note 4 to the financial statements and Liquidity and Capital Resources in Management's Discussion and Analysis for a further discussion of liquidity issues.

### **Safe Harbor Provision**

Nanophase wants 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. These statements reflect the Company's current expectations of the future results of its operations, performance and achievements. Forward-looking statements are covered under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The Company has 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 the Company's actual results, performance or achievements in 2008 and beyond to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and factors include, without limitation: a decision by a customer to cancel a purchase order or supply agreement in light of the Company's dependence on a limited number of key customers; uncertain demand for, and acceptance of, the Company's nanocrystalline materials; the Company's limited manufacturing capacity and product mix flexibility in light of customer demand; the Company's limited marketing experience; changes in development and distribution relationships; the impact of competitive products and technologies; the Company's dependence on patents and protection of proprietary information; the resolution of litigation in which the Company may become involved; and other risks set forth under the caption Risk Factors in the Company's Annual Report on Form 10-K for the year ended December 31, 2007. Readers of this Form 10-Q should not place undue reliance on any forward-looking statements. Except as required by federal securities laws, the Company undertakes 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**

Typically, the only financial instruments that the Company holds are investments of a short-term duration. Management does not believe that the Company currently has material market risk relating to its investments. The Company has recently reclassified its auction rate securities as long-term assets due to the current uncertainty surrounding their duration. Please see Note 4 to the financial statements and Liquidity and Capital Resources in Management's Discussion and Analysis for a further discussion of liquidity issues.

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

#### **Disclosure controls**

An evaluation was conducted under the supervision and with the participation of the Company's management, including the Acting Chief Executive Officer (Acting CEO) and Chief Financial Officer (CFO), of the effectiveness of the design and operation of the Company's disclosure controls and procedures as of December 31, 2007. Based on that evaluation, the Acting CEO and CFO concluded that the Company's disclosure controls and procedures were effective as of such date to ensure that information required to be disclosed in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in Securities and Exchange Commission rules and forms and that the Company's disclosure controls and procedures are effective to ensure that material information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is made known to management and others, as appropriate, to allow timely decisions regarding required disclosures.

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

The Company's management, including the Acting CEO and CFO, confirm that there was no change in the Company's internal control over financial reporting during the quarter ended September 30, 2008 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

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**PART II OTHER INFORMATION**

**Item 1. Legal Proceedings**

None.

**Item 1A. Risk Factors**

As of the end of our third quarter, there were no additional material risks and no material changes to the risk factors discussed in our Annual Report on Form 10-K for the year ended December 31, 2007.

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

None.

**Item 3. Defaults Upon Senior Securities**

None.

**Item 4. Submission of Matters to a Vote of Security Holders**

Please see our discussion of the Company's Annual Meeting of Stockholders held on July 24, 2008 as set forth in our Quarterly Report on Form 10-Q for the quarter ended June 30, 2008.

**Item 5. Other Information**

None.

**Item 6. Exhibits**

Exhibit 2	Plan and Agreement of Merger dated as of November 25, 1997 by and between the Company and its Illinois predecessor, incorporated by reference to Exhibit 2 to the Company's Annual Report on Form 10-K for the year ended December 31, 1997 (the 1997 10-K).
Exhibit 3(I).1	Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the 1997 10-K.
Exhibit 3(I).2	First Amendment to the Certificate of Incorporation of Nanophase Technologies Corporation dated July 27, 2006, incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K filed July 27, 2006.
Exhibit 3(II).1	Bylaws of the Company, incorporated by reference to Exhibit 3.2 to the 1997 10-K.
Exhibit 4.1	Specimen stock certificate representing common stock, incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-36937) (the IPO S-1).
Exhibit 4.2	Form of Warrants, incorporated by reference to Exhibit 4.2 to the IPO S-1.

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Exhibit 4.3	Rights Agreement dated as of October 28, 1998 by and between the Company and LaSalle National Bank, incorporated by reference to Exhibit 1 to the Company's Registration Statement on Form 8-A, filed October 28, 1998.
Exhibit 4.4	Certificate of Designation of Series A Junior Participating Preferred Stock incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998 (the 1998 10-K).
Exhibit 4.5	Amendment to Rights Agreement dated August 1, 2001 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001.
Exhibit 4.6	2001 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-8 (File No. 333-74170).
Exhibit 4.7	Second Amendment to Rights Agreement dated May 24, 2002 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-3 (File No. 333-90326) filed June 12, 2003.
Exhibit 4.8	Third Amendment to Rights Agreement dated September 5, 2003 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed September 10, 2003.
Exhibit 4.9	Subscription Agreement dated September 8, 2003 between the Company and Grace Brothers, Ltd., incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed September 10, 2003.
Exhibit 4.10	Stock Purchase Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.10 to the Company's Annual Report on Form 10-K filed March 30, 2004.
Exhibit 4.11	Registration Rights Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.11 to the Company's Annual Report on Form 10-K filed March 30, 2004.
Exhibit 4.12	2004 Nanophase Technologies Corporation 2004 Equity Compensation Plan, ( 2004 Equity Plan ) incorporated by reference to Exhibit 4 to the Company's Registration Statement on Form S-8 (File No. 333-119466).
Exhibit 4.13	Form of Stock Option Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.13 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.14	Form of Restricted Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.14 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.15	Form of Performance Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.15 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.16	2005 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4 to the Company's Non-Employee Director Restricted Stock



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	Plan, incorporated by reference to Exhibit A to the Company's Definitive Proxy Statement on Form DEF14A filed May 17, 2005.
Exhibit 4.17	First Amendment to the Nanophase Technologies Corporation 2005 Non-Employee Director Restricted Stock Plan, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed January 9, 2006.
Exhibit 4.18	Fourth Amendment to Shareholders' Rights Agreement, dated as of October 24, 2008, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed November 3, 2008.
Exhibit 10.1**	Agreement dated July 7, 2008 between the Company and Altana Chemie GmbH, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed July 18, 2008.
Exhibit 10.2	2008 Long-Term Cash Incentive Plan, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed July 25, 2008.
Exhibit 10.3*	Employment Agreement effective as of September 25, 2008, between the Company and Nancy Baldwin, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed October 2, 2008.
Exhibit 10.4*	Employment Agreement effective as of September 25, 2008, between the Company and Patrick Murray, incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed October 2, 2008.
Exhibit 10.5*	Employment Agreement effective as of September 25, 2008, between the Company and David W. Nelson, incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K filed October 2, 2008.
Exhibit 10.6*	Separation Agreement effective August 25, 2008, between the Company and Joseph E. Cross, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed August 29, 2008.
Exhibit 10.7*	Separation Agreement effective September 12, 2008, between the Company and Kevin J. Wentz, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 15, 2008.
Exhibit 31.1	Certification of Chief Executive Officer pursuant to Rules 13a-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.

\* Management contract or compensatory plan or arrangement.

\*\* Confidentially requested, confidential portions have been omitted and filed separately with the Commission as required by Rule 24b-2.

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**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: November 10, 2008

By: /s/ JESS A. JANKOWSKI  
Jess A. Jankowski  
Acting Chief Executive Officer and Chief Financial Officer  
(principal financial and chief accounting officer)

Date: November 10, 2008

By: /s/ SHERMAN JUNG  
Sherman Jung  
Controller