

NANOPHASE TECHNOLOGIES CORPORATION  
Form 10-Q  
August 07, 2008

## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

### Form 10-Q

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

**For the Quarterly Period Ended: June 30, 2008**

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: 0-22333**

## Nanophase Technologies Corporation

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction of

**36-3687863**  
(I.R.S. Employer

incorporation or organization)

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

As of August 6, 2008, there were 21,139,908 shares outstanding of common stock, par value \$.01, of the registrant.

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NANOPHASE TECHNOLOGIES CORPORATION

QUARTER ENDED JUNE 30, 2008

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## PART I FINANCIAL INFORMATION

## Item 1. Financial Statements

## NANOPHASE TECHNOLOGIES CORPORATION

## BALANCE SHEETS

(Unaudited)

	June 30, 2008	December 31, 2007
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 908,493	\$ 563,075
Investments	8,881,386	16,145,844
Trade accounts receivable, less allowance for doubtful accounts of \$13,000 on June 30, 2008 and December 31, 2007	1,289,652	1,403,206
Inventories, net	1,571,760	1,085,364
Prepaid expenses and other current assets	427,601	298,464
Total current assets	13,078,892	19,495,953
Investments	6,000,000	
Equipment and leasehold improvements, net	7,085,963	7,409,666
Other assets, net	627,685	781,266
	\$ 26,792,540	\$ 27,686,885
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>Current liabilities:</b>		
Current portion of deferred other revenue	127,273	127,273
Current portion of capital lease obligations	40,300	43,110
Accounts payable	617,709	238,295
Accrued expenses	1,640,446	1,584,656
Total current liabilities	2,425,728	1,993,334
Long-term debt, less current maturities and unamortized debt discount	1,540,703	1,512,507
Long-term portion of capital lease obligations	13,170	31,430
Deferred other revenue, less current portion	10,609	74,243
	1,564,482	1,618,180
<b>Contingent liabilities</b>		
<b>Stockholders equity:</b>		
Preferred stock, \$.01 par value, 24,088 shares authorized and no shares issued and outstanding		
Common stock, \$.01 par value, 30,000,000 shares authorized; 21,130,697 and 21,088,068 shares issued and outstanding on June 30, 2008 and December 31, 2007, respectively	211,307	210,881
Additional paid-in capital	90,663,474	90,201,131
Accumulated deficit	(68,072,451)	(66,336,641)
Total stockholders equity	22,802,330	24,075,371

*See Notes to Financial Statements.*

## NANOPHASE TECHNOLOGIES CORPORATION

## STATEMENTS OF OPERATIONS

(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2008	2007	2008	2007
<b>Revenue:</b>				
Product revenue, net	\$ 2,811,626	\$ 4,015,275	\$ 5,754,347	\$ 6,809,416
Other revenue	132,780	110,233	244,167	222,529
Net revenue	2,944,406	4,125,508	5,998,514	7,031,945
<b>Operating expense:</b>				
Cost of revenue	1,836,276	2,611,249	3,836,484	4,804,524
Gross Profit	1,108,130	1,514,259	2,162,030	2,227,421
Research and development expense	416,239	450,005	854,934	974,169
Selling, general and administrative expense	1,525,446	1,360,957	3,219,514	2,771,217
Loss from operations	(833,555)	(296,703)	(1,912,418)	(1,517,965)
Interest income	80,788	89,202	248,010	188,829
Interest expense	(33,142)	(34,173)	(71,559)	(67,220)
Other, net	(2,074)	248	157	(69,097)
Loss before provision for income taxes	(787,983)	(241,426)	(1,735,810)	(1,465,453)
Provisions for income taxes				
Net loss	\$ (787,983)	\$ (241,426)	\$ (1,735,810)	\$ (1,465,453)
Net loss per share-basic and diluted	\$ (0.04)	\$ (0.01)	\$ (0.08)	\$ (0.08)
Weighted average number of common shares outstanding	21,130,697	19,070,236	21,118,652	19,038,217

*See Notes to Financial Statements.*

## NANOPHASE TECHNOLOGIES CORPORATION

## STATEMENTS OF CASH FLOWS

(Unaudited)

	Six months ended June 30,	
	2008	2007
<b>Operating activities:</b>		
Net loss	\$ (1,735,810)	\$ (1,465,453)
Adjustment to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	644,998	710,931
Amortization of debt discount	28,197	62,445
Amortization of deferred revenue	(63,636)	(63,636)
Stock compensation expense	432,883	315,778
Allowance for excess inventory quantities		(12)
Loss on disposal of equipment	513	
Write-down of equipment		69,587
Abandonment of pending patents	168,050	
Changes in assets and liabilities related to operations:		
Trade accounts receivable	113,554	(1,045,254)
Inventories	(486,396)	(442,663)
Prepaid expenses and other assets	(129,137)	(6,882)
Accounts payable	291,094	498,417
Accrued liabilities	52,379	(219,799)
Net cash used in operating activities	(683,311)	(1,586,541)
<b>Investing activities:</b>		
Proceeds from disposal of equipment	1,800	8,100
Acquisition of equipment and leasehold improvements	(206,950)	(429,425)
Acquisition of patents	(34,607)	(113,159)
Payment of accounts payable incurred for the purchase of equipment and leasehold improvements	(5,318)	(60,900)
Purchases of investments	(114,381,070)	(34,352,973)
Sales of investments	115,645,528	37,179,246
Net cash provided by investing activities	1,019,383	2,230,889
<b>Financing activities:</b>		
Principal payment on debt obligations, including capital leases	(21,071)	(18,742)
Proceeds from sale of common stock, net, and exercise of stock options.	30,417	224,692
Net cash provided by financing activities	9,346	205,950
Increase in cash and cash equivalents	345,418	850,298
Cash and cash equivalents at beginning of period	563,075	132,387
Cash and cash equivalents at end of period	\$ 908,493	\$ 982,685
<b>Supplemental cash flow information:</b>		
Interest paid	\$ 42,626	\$ 4,776

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**Supplemental non-cash investing activities:**

Capital lease obligation incurred for purchase of equipment	\$		\$	29,900
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Accounts payable incurred for the purchase of equipment and leasehold

improvements	\$	93,638	\$	87,343
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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 six month periods ended June 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 sales of 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 operating 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.

*Level 3:* Unobservable inputs reflecting management's own assumptions about the inputs used in pricing the asset or liability. As of June 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	\$ 908,000	\$ 908,000	\$	\$
Investments <sup>(a)</sup>	6,000,000	6,000,000		
Available-for-sale securities <sup>(b)</sup>	8,852,000	8,852,000		
Held-to-maturity investments <sup>(c)</sup>	30,000	30,000		
Total financial assets at fair value	\$ 15,790,000	\$ 15,790,000	\$	\$
<b>Financial Liabilities</b>				
Long-term debt <sup>(d)</sup>	\$ 1,541,000	\$	\$ 1,541,000	\$

(a) Based on defined rates for auction rate securities dependent on the participation of willing buyers (see Note 4).

(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 June 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 June 30, 2008 and on December 31, 2007, in the form of certificates of deposit which are 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 June 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 June 30, 2008, the Company has reclassified these investments as long-term assets on the Company's balance sheet on June 30, 2008. The Company's investments on June 30, 2008 and December 31, 2007 were as follows:

	June 30, 2008	December 31, 2007
Auction rate securities	\$ 6,000,000	\$ 14,175,000
United States Treasury Bill	6,792,096	
Money market fund	2,956,512	1,898,262
Certificates of deposit	30,000	30,000
Accrued interest	11,271	42,582
	\$ 15,789,879	\$ 16,145,844

#### (5) Inventories

Inventories consist of the following:

	June 30, 2008	December 31, 2007
Raw materials	\$ 430,004	\$ 180,293
Finished goods	1,184,402	1,274,604
	1,614,406	1,454,897
Allowance for excess inventory quantities	(42,646)	(369,533)
	\$ 1,571,760	\$ 1,085,364

During the three months ended June 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 \$185,638 and \$338,141 for the three and six months ended June 30, 2008, compared to \$83,079 and \$224,642 for the same periods in 2007.

As of June 30, 2008, there was approximately \$1,579,000 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 3.3 years.

**Employees Stock Options and Stock Grants**

During the six months ended June 30, 2008, 16,667 shares of common stock were issued pursuant to option exercises compared to 72,800 shares for the same period in 2007. For the six months ended June 30, 2008, 330,000 shares of stock options were granted compared to 110,000 shares for the same period in 2007. For the six months ended June 30, 2008, 11,601 shares of stock options were forfeited compared to 229,299 shares for the same period in 2007. For the six months ended June 30, 2008, 25,962 shares were issued in the form of restricted stock grant to the Company's outside directors compared to 12,114 shares for the same period in 2007.

**Restricted Stock**

For the three months ended June 30, 2008 and 2007, the Company was to grant its outside directors 14,328 and 6,186 shares of deferred common stock compared to 25,962 and 12,114 shares for the six months ended June 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 June 30, 2008 and 2007 was \$48,000 and \$36,000 compared to \$90,000 and \$72,000 for the six months ended June 30, 2008 and 2007, respectively, for the restricted share rights and is included in stock-based compensation expense for the three and six months ending June 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 June 30,		Number of deferred shares granted For the six months ended June 30,	
	2008	2007	2008	2007
Donald S. Perkins, Chairman of the Board of Directors	3,134	1,031	4,796	2,019
James A. McClung, Chairman of the Audit and Finance Committee	2,239	1,031	3,901	2,019
James A. Henderson, Chairman of the Nominating Committee	1,791	1,031	3,453	2,019
Jerry K. Pearlman, Chairman of the Compensation and Governance Committee	1,791	1,031	3,453	2,019
Richard W. Siegel, Ph.D.	1,791	1,031	3,453	2,019
George A. Vincent, III	1,791		3,453	
R. Janet Whitmore	1,791	1,031	3,453	2,019
	14,328	6,186	25,962	12,114

Name	Deferred Stock Awards (\$)		Deferred Stock Awards (\$)	
	For the three months ended June 30,		For the six months ended June 30,	
	2008	2007	2008	2007
Donald S. Perkins, Chairman of the Board of Directors	\$ 10,500	\$ 6,000	\$ 16,500	\$ 12,000
James A. McClung, Chairman of the Audit and Finance Committee	\$ 7,500	\$ 6,000	\$ 13,500	\$ 12,000
James A. Henderson, Chairman of the Nominating Committee	\$ 6,000	\$ 6,000	\$ 12,000	\$ 12,000
Jerry K. Pearlman, Chairman of the Compensation and Governance Committee	\$ 6,000	\$ 6,000	\$ 12,000	\$ 12,000
Richard W. Siegel, Ph.D.	\$ 6,000	\$ 6,000	\$ 12,000	\$ 12,000
George A. Vincent, III	\$ 6,000	\$	\$ 12,000	\$
R. Janet Whitmore	\$ 6,000	\$ 6,000	\$ 12,000	\$ 12,000
	\$ 48,000	\$ 36,000	\$ 90,000	\$ 72,000

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 also vest in lump sum or cliff vest on January 30, 2009 provided a certain performance goal or milestone is achieved on or before January 30, 2009 and the grantee has not terminated service prior to January 30, 2009. The Company used an estimated forfeiture rate of 4.41% for performance shares for the period ending June 30, 2008 compared to 5% for the same period in 2007. For the three and six months ended June 30, 2008, the stock-based compensation expense (recovery) was \$5,780 and \$11,538 for the restricted share rights compared to (\$2,306) and \$5,305 for the same periods in 2007. For the three and six months ended June 30, 2008, the stock-based compensation (recovery) expense was (\$5,962) and (\$7,326) for the performance share rights compared to (\$2,138) and \$4,116 for the same periods in 2007 totaling (\$182) and (\$4,444) compared to \$4,212 and \$9,421 in stock-based compensation expense for the three and six months ending June 30, 2008 and 2007, respectively.

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 June 30,		For the six months ended June 30,	
	2008	2007	2008	2007
	Weighted-average risk-free interest rates:	3.45%	4.62%	3.44%
Dividend yield:				
Weighted-average expected life of the option:	7 Years	7 Years	7 Years	7 Years
Weighted-average expected stock price volatility:	75.00%	79.30%	75.08%	83.02%
Weighted-average fair value of the options granted:	\$ 2.25	\$ 4.60	\$ 2.26	\$ 4.50

#### (7) Significant Customers and Contingencies

Revenue from three customers constituted approximately 37%, 32% and 17% for the three months ended June 30, 2008, compared to 37%, 32% and 13% of the Company's total revenue for the six months ended June 30, 2008. Amounts included in accounts receivable on June 30, 2008 relating to these

three customers were approximately \$435,000, \$315,000 and \$244,000, respectively. Revenue from these three customers constituted approximately 36%, 41% and 3% of the Company's total revenue for the three months ended June 30, 2007, compared to 44%, 32% and 2% for the six months ended June 30, 2007. Amounts included in accounts receivable on June 30, 2007 relating to these three customers were approximately \$1,038,000, \$742,000 and \$135,000, 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, 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 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 \$156,000 and \$448,000 for the three and six months ended June 30, 2008, compared to \$105,000 and \$406,000 for the same periods in 2007. As part of its revenue from international sources, the Company recognized approximately \$220,000 in product revenue from several German companies and \$150,000 in other revenue from a technology license fee from its Japanese licensee for the six months ended June 30, 2008 compared to \$175,000 and \$150,000 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) 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 NanoArc<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 2008 and beyond and revenue growth in both of these areas to follow thereafter. Additionally, the Company feels that its exclusive relationship with Altana Chemie AG ( Altana ), a global ingredients supplier to various coatings industries, may lead to growth in several of its abrasion-resistant applications in the marketplace. In May of 2005, BASF announced the introduction of a new coated sunscreen material. This material incorporated a new coating developed by Nanophase which, management believes, should help expand sales in the European and Asian markets with future revenue growth expected. Management further expects that we will develop additional customers to help us 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.

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 \$68.1 million from inception through June 30, 2008.

## Results of Operations

Total revenue decreased to \$2,944,406 and \$5,998,514 for the three and six months ended June 30, 2008, compared to \$4,125,508 and \$7,031,945 for the same periods in 2007. A substantial majority of the Company's revenue for the three and six month periods ended June 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 six month periods ended June



30, 2008. Product revenue decreased to \$2,811,626 and \$5,754,347 for the three and six months ended June 30, 2008, compared to \$4,015,275 and \$6,809,416 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 \$132,780 and \$244,167 for the three and six months ended June 30, 2008, compared to \$110,233 and \$222,529 for the same periods in 2007. This increase was primarily attributed to the Company recognizing revenue for an evaluation agreement with a customer.

The majority of the total revenue generated during the six-month period ended June 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 \$1,836,276 and \$3,836,484 for the three and six months ended June 30, 2008, compared to \$2,611,249 and \$4,804,524 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. Improvements to gross margins were primarily due to favorable product mix. Nanophase expects to continue new nanomaterial development, primarily using its NanoArc<sup>®</sup> 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. The May 2005 development of BASF's new sunscreen was an example of this work. 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 decreased to \$416,239 and \$854,934 for the three and six months ended June 30, 2008, compared to \$450,005 and \$974,169 for the same periods in 2007. The decrease in research and development expense was largely attributed to decreases in salaries and outside testing expenses. These decreases were partially offset by increased stock compensation (non-cash) expense. The Company does not expect research and development expense to increase significantly for the remainder of 2008.

Selling, general and administrative expense increased to \$1,525,446 and \$3,219,514 for the three and six months ended June 30, 2008, compared to \$1,360,957 and \$2,771,217 for the same periods in 2007. The net increase was primarily attributed 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), professional fees, salary and recruiting expenses. These increases were partially offset by decreases in consulting fees, investor relations and travel expenses.

Interest income decreased to \$80,788 for the three months ended June 30, 2008, compared to \$89,202 for the same period in 2007. Interest income increased to \$248,010 for the six months ended June 30, 2008, compared to \$188,829 for the same period in 2007. The decrease for the three months ended June 30, 2008 was primarily due to decreased investment yields. The increase for the six months ended June 30, 2008 was primarily due to 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 partially offset by decreased investment yields.

#### **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 2008 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 \$9,789,879 on June 30, 2008, compared to \$16,708,919 on December 31, 2007 and \$6,591,205 on June 30, 2007. On June 30, 2008, the Company has 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 \$683,311 for the six months ended June 30, 2008, compared to \$1,586,541 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 \$1,019,383 for the six months ended June 30, 2008 compared to \$2,230,889 for the same period in 2007. Capital expenditures amounted to \$206,950 and \$429,425 for the six months ended June 30, 2008 and 2007, respectively. Net cash provided by financing activities is due to the issuance of shares of common stock pursuant to the exercise of options, partially offset by principal payments on capital lease obligations, amounting, in total, to \$9,346 for the

six months ended June 30, 2008 compared to \$205,950 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 \$15.8 million in cash, cash equivalents and investments and debt net of unamortized debt discount of less than \$1.8 million on June 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 2008 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 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 \$500,000, but could be even greater due to the factors discussed above.

As of August 1, 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 June 30, 2008, the Company had a net operating loss carryforward of approximately \$74.5 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 second 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 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 4. Controls and Procedures**

#### **Disclosure controls**

An evaluation was conducted under the supervision and with the participation of the Company's management, including the Chief Executive Officer (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 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 CEO and CFO, confirm that there was no change in the Company's internal control over financial reporting during the quarter ended June 30, 2008 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**

None.

### **Item 1A. Risk Factors**

As of the end of our second 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**

- a) The 2008 Annual Meeting of Stockholders of the Company was held on July 24, 2008.
- b) The stockholders voted to re-elect two Class II directors to the Company's Board of Directors. Results of the voting were as follows:

Directors	For	Authority Withheld	Abstentions	Broker Non-Votes
Richard W. Siegel, Ph D.	13,697,455	4,265,571		
Joseph E. Cross	13,720,055	4,242,971		

James A. Henderson, James A. McClung, Jerry K. Pearlman, Donald S. Perkins, George A. Vincent, III and R. Janet Whitmore continued their terms of office as directors of the Company after the 2008 Annual Meeting of Stockholders.

- c) To ratify the appointment by the Company's Audit and Finance Committee of McGladrey & Pullen, LLP as the independent auditors of the Company's financial statements for the year ended December 31, 2008. Results of the voting were as follows:

For	Against	Abstentions	Broker Non-Votes
13,720,455	4,242,571	3,095,936	

**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.
- 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 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 10.1 The Nanophase Technologies Corporation Amended and Restated 1992 Stock Option Plan, as amended (the "Stock Option Plan"), incorporated by reference to Exhibit 10.1 to the IPO S-1.
- Exhibit 10.2 Form of Indemnification Agreement between the Company and each of its directors and executive officers, incorporated by reference to Exhibit 10.2 to the IPO S-1.
- Exhibit 10.3 Amended and Restated Registration Rights Agreements dated as of March 16, 1994, as amended, incorporated by reference to Exhibit 10.2 to the IPO S-1.
- Exhibit 10.4 License Agreement dated June 1, 1990 between the Company and ARCH Development Corporation, as amended, incorporated by reference to Exhibit 10.7 to the IPO S-1.
- Exhibit 10.5 License Agreement dated October 12, 1994 between the Company and Hitachi, incorporated by reference to Exhibit 10.8 to the IPO S-1.
- Exhibit 10.6 License Agreement dated May 31, 1996 between the Company and Research Development Corporation of Japan, incorporated by reference to Exhibit 10.9 to the IPO S-1.
- Exhibit 10.7 License Agreement dated April 1, 1996 between the Company and Cornell Research Foundation, incorporated by reference to Exhibit 10.10 to the IPO S-1.
- Exhibit 10.8\* Consulting and Stock Purchase Agreement between Richard W. Siegel and the Company dated as of May 9, 1990, as amended February 13, 1991, November 21, 1991 and January 1, 1992, incorporated by reference to Exhibit 10.11 to the IPO S-1.



- Exhibit 10.9 Lease Agreement between the Village of Burr Ridge and the Company, dated September 15, 1994, incorporated by reference to Exhibit 10.12 to the IPO S-1.
- Exhibit 10.10 Distribution Agreement between the Company and C.I. Kasei, Ltd., (a subsidiary of Itochu Corporation) dated as of October 30, 1996, incorporated by reference to Exhibit 10.15 to the IPO S-1.
- Exhibit 10.11 Supply Agreement between the Company and Schering-Plough HealthCare Products, Inc. dated as of March 15, 1997, incorporated by reference to Exhibit 10.17 to the IPO S-1.
- Exhibit 10.12 License Agreement between the Company and C.I. Kasei Co., Ltd. (a subsidiary of Itochu Corporation) dated as of December 30, 1997, incorporated by reference to Exhibit 10.17 to the 1997 10-K.
- Exhibit 10.13\* Employment Agreement dated as of November 9, 1999 between the Company and Joseph Cross, incorporated by reference to Exhibit 10.15 to the 1999 10-K.
- Exhibit 10.14\* Employment Agreement dated as of March 15, 1999 between the Company and Daniel S. Bilicki, incorporated by reference to Exhibit 10.19 to the 1998 10-K.
- Exhibit 10.15\* Form of Options Agreement under the Stock Option Plan, incorporated by reference to Exhibit 4.5 to the Company's Registration Statement on Form S-8 (File No. 333-53445).
- Exhibit 10.16\*\* Zinc Oxide Supply Agreement dated as of September 16, 1999 between the Company and BASF Corporation, as assignee, incorporated by reference to Exhibit 10.22 to the 1999 10-K.
- Exhibit 10.17\* Employment Agreement dated as of November 2, 2000 between the Company and Robert Haines, incorporated by reference to Exhibit 10.22 to the Company's Annual Report on Form 10-K for the year ended December 31, 2000 (the 2000 10-K ).
- Exhibit 10.18 Lease Agreement between Centerpointe Properties Trust and the Company, dated June 15, 2000, incorporated by reference to Exhibit 10.23 to the 2000 10-K.
- Exhibit 10.19\*\* Amendment No. 1 to Zinc Oxide Supply Agreement dated as of January, 2001 between the Company and BASF Corporation, incorporated by reference to Exhibit 10.24 to the 2000 10-K.
- Exhibit 10.20 Promissory Note dated as of September 14, 2000 between the Company and BASF Corporation, incorporated by reference to Exhibit 10.25 to the 2000 10-K.
- Exhibit 10.21\*\* Cooperation Agreement dated June 24, 2002 between the Company and Rodel, Inc., incorporated by reference to Exhibit 10.23 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002.

- Exhibit 10.22\* Consulting Agreement dated December 12, 2002 between the Company and Dr. Gina Kritchevsky, incorporated by reference to Exhibit 10.24 to the Company's Annual Report on Form 10-K for the year ended December 31, 2002.
- Exhibit 10.23 First Amendment to Promissory Note dated as of March 11, 2003 between the Company and BASF Corporation, incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the year ended December 31, 2002.
- Exhibit 10.24 Amendment No. 2 to Zinc Oxide Supply Agreement dated as of March 17, 2003 between the Company and BASF Corporation, incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the year ended December 31, 2002.
- Exhibit 10.25\* Employment Agreement dated March 24, 2003 between the Company and Mr. Edward G. Ludwig, Jr., incorporated by reference to Exhibit 10.25 to the Company's Annual Report on Form 10-K for the year ended December 31, 2002.
- Exhibit 10.26\* Employment Agreement dated February 17, 2000 between the Company and Mr. Jess Jankowski, incorporated by reference to Exhibit 10.26 to the Company's Annual Report on Form 10-K filed March 30, 2004.
- Exhibit 10.27\* Employment Agreement dated September 26, 2001 between the Company and Dr. Richard W. Brotzman, incorporated by reference to Exhibit 10.27 to the Company's Annual Report on Form 10-K filed March 30, 2004.
- Exhibit 10.28\*\* Amendment No. 1 to Cooperation Agreement dated February 25, 2004 between the Company and Rohm and Haas Electronic Materials CMP Inc. (formerly known as Rodel, Inc.), incorporated by reference to Exhibit 10.28 to the Company's Annual Report on Form 10-K filed March 30, 2004.
- Exhibit 10.29 Joint Development Agreement dated March 23, 2004 between the Company and Altana Chemie AG., incorporated by reference to Exhibit 10.29 to the Company's Quarterly Report on Form 10-Q filed August 13, 2004.
- Exhibit 10.30 Amendment No. 1 to License Agreement dated July 16, 2004 between the Company and C.I. Kasei Co., Ltd., incorporated by reference to Exhibit 10.30 to the Company's Quarterly Report on Form 10-Q filed August 13, 2004.
- Exhibit 10.31\*\* Letter Agreement Amending Cooperation Agreement dated October 15, 2004 between the Company and Rohm and Haas Electronic Materials CMP Inc., incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed October 22, 2004.
- Exhibit 10.32 Building Lease dated September 15, 2004 between the Company and the Village of Burr Ridge, incorporated by reference to Exhibit 10.32 to the Company's Annual Report on Form 10-K filed March 15, 2005.

- Exhibit 10.33\*\* Second Amendment to Promissory Note dated as of May 1, 2005 between the Company and BASF Corporation, incorporated by reference to Exhibit 10.33 to the Company's Quarterly Report on Form 10-Q filed May 9, 2005.
- Exhibit 10.34 Lease Amendment effective October 1, 2005 between Nanophase Technologies Corporation and Centerpoint Properties Trust, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed October 20, 2005.
- Exhibit 10.35 Promissory Note effective October 27, 2005 executed by BYK-Chemie USA in favor of Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed October 27, 2005.
- Exhibit 10.36\*\* Distributor Agreement dated October 24, 2005 between Johnson Matthey Catalog Company, Inc., d/b/a ALFA AESAR, and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed November 1, 2005.
- Exhibit 10.37 First Amendment to 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 10.38 Nanophase Technologies Corporation Non-Employee Director Deferred Compensation Plan, incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed January 9, 2006.
- Exhibit 10.39\*\* Supply Agreement dated March 3, 2006 between Roche Diagnostics GmbH and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed March 9, 2006.
- Exhibit 10.40 Z-COTE HP-2 Brand Supply Agreement dated May 15, 2006 between BASF Corporation and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed June 20, 2006.
- Exhibit 10.41 Amendment to 2004 Equity Compensation Plan, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed July 27, 2006.
- Exhibit 10.42 Stock Purchase Agreement dated August 25, 2006 between Rohm and Haas Electronic Materials CMP Holdings, Inc. and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed August 28, 2006.
- Exhibit 10.43 Registration Rights Agreement dated August 25, 2006 between Rohm and Haas Electronic Materials CMP Holdings, Inc. and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed August 28, 2006.
- Exhibit 10.44\*\* Amended and Restated Cooperation Agreement dated August 25, 2006 between Rohm and Haas Electronic Materials CMP Inc. and Nanophase Technologies Corporation, incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K filed August 28, 2006.

Exhibit 10.45	2006 Stock Appreciation Rights Plan, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed October 3, 2006.
Exhibit 10.46	Form of Grant Agreement, incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed October 3, 2006.
Exhibit 10.47*	Employment Agreement dated as of January 8, 2007 between the Company and Kevin J. Wenta, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed January 12, 2007.
Exhibit 10.48	Placement Agency Agreement dated as of June 29, 2007 between the Company and Global Crown Capital, L.L.C., incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed June 2, 2007.
Exhibit 10.49***	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 10.50	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 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.

\*\* Confidentiality previously granted for portions of this agreement.

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

**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 7, 2008

By: /s/ JOSEPH E. CROSS  
Joseph E. Cross  
President, Chief Executive Officer

(principal executive officer) and a Director

Date: August 7, 2008

By: /s/ JESS A. JANKOWSKI  
Jess A. Jankowski  
Chief Financial Officer

(principal financial and chief accounting officer)