

NANOPHASE TECHNOLOGIES CORPORATION  
Form 10-K  
March 25, 2009

## **SECURITIES AND EXCHANGE COMMISSION**

**Washington, D.C. 20549**

### **FORM 10-K**

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

**For the fiscal year ended December 31, 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)

**36-3687863**  
(I.R.S. Employer  
Identification No.)

of incorporation or organization)

**1319 Marquette Drive, Romeoville, Illinois 60446**

(Address of principal executive offices) (zip code)

**Registrant's telephone number, including area code: (630) 771-6708**

**Securities registered pursuant to Section 12(b) of the Act: None**

**Securities registered pursuant to Section 12(g) of the Act:**  
**Common Stock, par value \$.01 per share**  
**Preferred Stock Purchase Rights**

Indicate by check mark whether the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes  No

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 if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. 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 large accelerated filer, 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

The aggregate market value of the registrant's voting stock held by non-affiliates of the registrant based upon the last reported sale price of the registrant's common stock on June 30, 2008 was \$37,015,562 as of such date.

The number of shares outstanding of the registrant's common stock, par value \$.01, as of March 20, 2009 was 21,188,912.

**DOCUMENTS INCORPORATED BY REFERENCE**

None.

**PART I**

**Item 1. Business**  
**General**

Nanophase Technologies Corporation ( Nanophase or the Company ) produces engineered nanomaterial products for diverse markets sunscreens, personal care, architectural coatings, industrial coating ingredients, plastic additives, semiconductor polishing, optics polishing and other markets. The Company develops and commercially manufacturers a broad range of nanomaterials and dispersions. Although Nanophase markets its products globally U.S, Europe and Asia, the Company s initial strategic focus is the North American market. 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.

Nanophase has created a leading commercial approach to the application of its integrated nanomaterials technologies designed to deliver an optimal engineered nanomaterial solution for a target market or specific customer application. The Company has complete capability from application development and laboratory samples through pilot production and, finally, commercial production in metric ton(s) capacity. Nanophase has development and application laboratories and manufacturing capacity in two locations in the Chicago area. The Company s manufacturing is based on Lean Six Sigma discipline and is certified to ISO 9001, American National Standard, Quality Management System Requirements; ISO 14001, American National Standard, Environmental Management System Requirements; and is compliant with cGMP for products under FDA regulation.

The Company has undergone a strategic shift toward penetrating key markets via interactive applications development with end customers in these markets. We believe this strategy leverages the applications development expertise we have developed over the last several years and best positions us to build direct sales to end use customers in addition to translating these advantages to its sales via its market partners.

**Nanomaterials**

Nanomaterials are generally comprised of particles (nanoparticles) that are less than 100 nanometers in diameter and these nanoparticles have a wide range of unique properties owing to their very small size. A nanometer is one-billionth of a meter, or about 100,000 times smaller in size than the width of a human hair. To give another perspective, a six-foot tall person is around two billion nanometers in height.

Nanotechnology involves manipulating the properties of materials, made up of basic elements or combinations thereof, at the 100-nanometer level or below. At this scale, the relatively small number of constituent atoms, the large proportion of these atoms on surfaces and their confined dimensions lead materials to exhibit unique properties that can be used in many applications to benefit performance.

Nanomaterials are an important and enabling part of the diverse field of nanotechnology and are the building blocks of the Company s nanotechnology products. The ultimate performance and value of Nanophase s products in a given application is a function of composition, size, shape, structure, surface chemistry and coating and dispersion potential. The Company s technologies for engineering and manufacturing nanomaterials, and the Company s understanding of how to make nanomaterials exhibit desirable performance characteristics in various media, result in commercial nanomaterials solutions that Nanophase believes offer superior performance in many applications.

Nanomaterials have applications in diverse global markets where they are incorporated into a process, such as semiconductor polishing, or a product, such as an industrial coating to prevent degradation from ultra-violet

radiation or significantly improve wear resistance. Multiple markets exist for Nanophase's products since nanomaterials offer advantages in many applications, such as improved properties and performance, longer wear or product life, lower overall product cost, or in the development of new products or processes.

Most of the raw materials used in the Company's various processes are commercially available. In some cases, Nanophase relies on sole-source processors of materials that utilize an array of worldwide sources for the raw materials that they process to the Company's specifications.

### **The Company's Technologies**

Nanophase has created an integrated platform of commercial nanomaterial technologies that are patented, patent-pending or proprietary. These technologies are designed to deliver a nanomaterial solution for a targeted market or a specific customer application. The Company's platform provides flexibility and capability to engineer nanomaterials that meet a customer's performance requirements and deliver its nanomaterial solutions in a readily usable format. Nanophase's technologies have been scalable and robust, having produced over 500 metric tons annually.

The Company's nanomaterials platform includes two distinct manufacturing processes (PVS and NanoArc® Synthesis) to make nanomaterials or nanoparticles. These technologies allow Nanophase to control critical nanomaterial properties (composition, size, shape, structure, surface chemistry) and engineer those to meet specific application performance. Compared to other well developed known nanoparticle processes, the Company's plasma-produced particles are produced as nonporous, dense, discrete single crystals, which the Company believes possess a unique set of bulk and surface properties. Nanophase currently has the capacity to produce over a million pounds of nanomaterials annually.

Perhaps of equal importance, Nanophase has also developed proprietary technology to disperse nanoparticles in both aqueous (water-based) and several organic solvent systems. These dispersions are highly stable at high weight loading (18-50% by weight), attributes which provide distinct market advantages. Dispersed nanomaterials are desired by many customers for use in their processes or products because of the ease of incorporation. As examples, dispersed nanomaterials are used in architectural coatings, industrial coatings, plastic additives and semiconductor polishing.

Nanophase has also developed patented and proprietary technology to coat or surface treat nanoparticles to further engineer surface chemistry by two main processes. In many applications, such as sunscreens, this technology is vital to ensure formulation compatibility and, in some cases, optimal application performance. The Company has the capacity to coat or surface treat nanoparticles at a rate of about a ton every eight hours and delivers over 300 tons of surface engineered nanoparticles to its customers annually. As an example, Nanophase sells coated nanomaterials that are used by major global consumer products companies for sunscreens and personal care products.

As markets continue to develop and grow, the Company believes that customers' preferred delivery formats will continue to be dispersed and/or coated nanomaterials. Nanophase believes it is well positioned with its platform of integrated commercial nanomaterial technologies to respond to this demand. The Company plans to maintain and advance its intellectual property and technologies to remain competitive in the fields of nanomaterials development, applications development and commercialization.

Nanophase has steadily expanded its ability to commercially utilize its technologies. Through large-scale manufacturing of nanomaterials utilized in the manufacture of consumer sunscreen and personal care products and architectural coatings, the Company has developed production expertise that has allowed it to improve processes relating to those nanomaterials as well as processes relating to other nanomaterials. This experience has translated into additional intellectual property and improvement of the Company's technologies and manufacturing processes to reduce variable manufacturing cost and improve gross margins.

## Marketing

Nanophase is in the process of focusing its marketing strategy to develop differentiated nano solutions that create superior value for our customers. This customer-focused strategy means we will not be solely dependent upon the efforts of our market partners for future sales growth.

Our customer-driven approach is being executed by focusing on a targeted group of market segments. We are developing deep market knowledge of these segments to thoroughly understand customer needs and our products' value proposition. This knowledge, combined with our applications development expertise, supports marketing and selling of our nano solutions to multiple companies within each market segment. We will work closely with each customer to develop a nanomaterial solution for their specific application. As we develop greater applications development expertise in a given area, specific applications development often becomes a routine process within Nanophase. This is where we believe our future customers will perceive the greatest value to working with Nanophase.

This approach increases the probability of success, allows the Company to use its integrated platform of nanomaterial technologies and reduces the time-to-market. The more our applications development scientists and sales team work directly with customers to develop nanomaterial solutions, the more quickly and successfully we will be able to grow sales.

We will, of course, also continue to devote a significant amount of our resources to maintaining and growing our relationships with our valued market partners. Management expects these relationships to continue to contribute to our future growth for the foreseeable future.

Nanophase's market partners currently include BASF Corporation (BASF), a \$50+ billion global chemical company; Altana Chemie, a \$1+ billion chemical company and a leader in coating and plastic additives; and Alfa Aesar, a division of Johnson Matthey. Each market partner is viewed as a leader in its respective markets with recognized brands, significant revenues and global sales reach. Nanophase has long-term exclusive relationships with each of its market partners. Market partners typically sell the Company's nanomaterial products into specific markets.

Nanophase anticipates that revenue generation from current products will continue growing with BASF, while new revenue streams will be generated through focused new product development and market introduction. BASF markets and distributes Nanophase's nanomaterials for sunscreens (beach wear and daily wear products) and personal care under the Z-Cote and Z-Cote Max brands to consumer products companies globally. The Company's revenues from these nanomaterial products grew 18% in 2007 while decreasing 17% in 2008. While 2008 saw a reduction in sales volume from 2007, continuing growth is expected long-term.

Altana Chemie and its subsidiary BYK-Chemie use Nanophase's nanomaterial products as ingredients and additives for paints, coatings, polymers, plastics, inks and sealants under its NanoBYK brand. Altana Chemie made a \$10 million equity investment in Nanophase during 2004. Altana Chemie also lent Nanophase \$1.6 million to purchase and install nanomaterials production equipment during 2006 to support projected capacity requirements related to volume growth. Although volume has not grown as expected, these are markets for which management feels many applications exist for our products. We continue to work in these areas to expand sales volume.

Alfa Aesar is a global distributor of Nanophase-branded nanomaterials and nanomaterial dispersions to the research and development community. Through catalogs, websites and a dedicated nanomaterials brochure, Alfa Aesar markets approximately 40 Nanophase nanomaterial products to the global research and development community. Nanophase anticipates that as new products or processes are developed using the Company's nanomaterial products, increased demand, driven by various research-oriented products undertaken with materials purchased through Alfa Aesar, may have a positive impact on revenue growth.

Nanophase and Rohm and Haas Electronic Materials CMP Technologies ( RHEM ), part of a \$9 billion global specialty materials company, have recently modified their relationship from an exclusive market partnership to a nonexclusive customer relationship. On March 23, 2009, the Company and RHEM entered into a three-year Supply Agreement (see exhibit 10.56 to this Form 10-K) that cancels the parties' Amended and Restated Cooperation Agreement made in August 2006. The two companies will continue to work with each other and support efforts to build future sales. RHEM uses the Company's nanomaterial products to manufacture slurry to polish semiconductors for various technology nodes. RHEM's slurry products are marketed and used globally by semiconductor manufacturers. Currently, the Company expects future sales to RHEM to be negatively impacted by the current state of the semiconductor market in general.

In addition to the applications with market partners, Nanophase's end-use manufacturing customers are using its nanomaterial products for architectural coatings, medical diagnostics, optics polishing, textile coatings and other applications.

### **Technology and Engineering**

Nanophase's efforts in its research and development, process engineering and advanced engineering groups are focused in three major areas: 1) application development for its nanomaterial products; 2) creating or obtaining additional core nanomaterial technologies, or nanomaterials, that have the capability to serve multiple markets; and 3) continuing to improve the Company's core technologies to improve manufacturing operations and reduce costs.

Most of the research and development at Nanophase is directly related to applications development. The Company endeavors to either meet specific customer needs or to develop applications solutions to unmet needs in a particular market where its materials may offer a distinct performance advantage. The Company believes that aggressively pursuing applications in targeted areas will help Nanophase compete as a technical and commercial innovator in nanomaterials.

Nanophase's total research and development expense, which includes all expenses relating to the technology and advanced engineering groups, during the years ended December 31, 2008 and 2007 was \$1,764,284 and \$1,773,565, respectively. This represents the Company's share of these expenses only and does not take into account amounts spent by our largest customers in support of our partnerships. The Company's future success will depend in large part upon its ability to develop products which bring a high degree of value to its customers' products. Through the three-year period ended December 31, 2008, the Company has had cumulative research and development expenses of approximately \$5.7 million and cumulative expenditures on equipment and leasehold improvements of approximately \$3.7 million. These investments in technology and production capacity and capability have helped to take Nanophase from a development stage company to full commercialization.

### **Manufacturing Operations**

The Company has manufacturing capacity based in two locations in the Chicago area. At each of these facilities, Nanophase is able to develop and supply nanomaterials in quantities ranging from grams to metric tons. Nanophase's facilities are certified to ISO 9001:2000 international standards and are current Good Manufacturing Practices ( cGMP ) compliant for applicable bulk pharmaceutical manufacturing. Nanophase is also in the process of registering some of the chemicals it ships to customers in Europe in compliance with the European Chemical Agency's regulations issued to date pertaining to Registration Evaluation and Authorization of Chemicals ( REACH ). The Company's facilities are also certified to the international standard for environmental management, ISO 14001:2004.

Nanophase's operations employ a cellular, team-based manufacturing approach, where workers operate in work cells, under a lean manufacturing environment to continuously advance and improve production capabilities. We have also developed a highly mobile workforce that has been cross-trained to allow it to be

employed broadly across the Company's manufacturing processes. The Company's manufacturing approach and targeted engineering actions have resulted in continuing process innovations and improvements that have reduced the variable manufacturing cost significantly over the past five years.

Management is committed to a lean manufacturing approach, to the extent possible given a certain measure of irregular demand, where the Company is able to reduce excess labor and manage the lowest practical inventory and supply levels in order to minimize working capital demands. This approach complements two of the Company's major operational goals which are to increase nanomaterials output without adding to existing equipment and to continually reduce production costs within commercially practical limits.

### **Intellectual Property and Proprietary Rights**

Nanophase relies on a combination of patent, trademark, copyright, trade secret and other intellectual property laws, nondisclosure agreements and other protective measures to protect its intellectual property. In addition to obtaining patents and trademarks based on the Company's inventions and products, Nanophase may also choose to license certain third-party patents from time-to-time to expand its technology base.

As of the date of this report, Nanophase owns or licenses 12 U.S. patents and 6 pending U.S. patent applications. The patents protect the Company's nanomaterial manufacturing process (4 patents), surface treatment and dispersions (3 patents), and applications technologies (5 patents). Internationally the Company's technology is protected by 27 foreign patents. In addition there are pending foreign patent applications which are counterparts to domestic filings covering its platform of nanotechnologies. The Company's oldest issued patents will expire in 2013.

Nanophase has licensed its PVS technology for specific markets in certain geographic regions to C.I. Kasei, a division of Itochu Corporation. Under this license agreement, the Company earns royalties on net sales of manufactured products containing nanocrystalline materials. The license agreement also provides for minimum royalty payments to maintain exclusivity. The license agreement expires on March 31, 2013 unless earlier terminated as provided therein. Upon expiration of the license agreement, the license will become non-exclusive.

### **Competition**

Within each of its targeted markets and product applications, Nanophase faces potential competition from advanced materials and chemical companies and suppliers of traditional materials. In many markets, the Company's potential competitors are larger and more diversified than the Company; however, management believes its materials and related technologies are superior to those of its competitors in terms of Nanophase's ability to produce highly engineered products to meet specific performance requirements and develop nanomaterial solutions for customers specific applications.

With respect to traditional suppliers, the Company may compete against lower priced traditional materials for certain customer applications. In some product or process applications the benefits of using nanomaterials do not always outweigh their typically higher costs.

With respect to larger producers of nanomaterials, while many of these producers do not currently offer directly competitive products, these companies have greater financial and technical resources, larger research and development staffs and greater manufacturing and marketing capabilities and could begin to compete directly against Nanophase. In addition, the number of development-stage companies involved in nanocrystalline materials continues to grow on a global basis, posing increasing competitive risks. Many of these companies are associated with university or national laboratories and use chemical and physical methods to produce nanocrystalline materials. Management believes that most of these companies are engaged primarily in funded research and is not aware that any of them currently have commercial production capabilities; however, they may represent competitive risks in the future. Some development-stage companies, especially in other countries, receive significant government assistance. Management anticipates that foreign competition may play a greater role in the nanomaterials arena in the future.

Nanophase believes that its nanomaterial technologies and manufacturing platforms are currently at the forefront of nanomaterials production. Relative to potential competition, Nanophase believes it is well positioned with its platform of integrated commercial nanomaterial technologies and its current plans for continual technology improvement and evolution.

### **Governmental Regulations**

The manufacture and use of certain of the products that contain the Company's nanocrystalline materials are subject to governmental regulations. As a result, the Company is required to adhere to the current Good Manufacturing Practices ( cGMP ) requirements of the U.S. Food and Drug Administration ( FDA ) and similar regulations that include testing, control and documentation requirements enforced by periodic inspections. Nanophase is also in the process of registering some of the chemicals it ships to customers in Europe in compliance with the European Chemical Agency's regulations issued to date pertaining to Registration Evaluation and Authorization of Chemicals ( REACH ).

Nanophase is committed to environmental health and safety ( EH&S ). We comply with all permissible exposure limit standards issued by OSHA. Because nanotechnology remains an emerging and evolving science, there are no currently accepted standards, measurements or personal protective equipment available that are specific to nanoparticle safety. Accordingly, Nanophase relies on nuisance dust standards and general chemical safety practices to identify safe personal protective equipment and appropriate handling protocols. The Company believes that it has taken a leadership position on EH&S in its operations and fugitive emissions, and has internal and external review and monitoring of its practices.

In addition, the Company's facilities and all of its operations are subject to the plant and laboratory safety requirements of various environmental and occupational safety and health laws. We believe we are in compliance with all such laws and regulations and to date, those regulations have not materially restricted or impeded operations.

Nanophase has taken a responsible, proactive approach to environmental health and safety by implementing appropriate procedures and processes to have its facilities certified to ISO 14001, American National Standard, Environmental Management System Requirements. The Company is also involved with leading industry groups that are defining nanomaterial standards and protocols. These currently include the ASTM International Committee on Nanotechnology, the National Pollution Prevention and Toxics Advisory Committee TSCA Voluntary Program, the American National Standards Institute (ANSI), and participate in FDA reviews relative to cosmetic applications. The Company has a full-time, advanced degree professional who spends a significant part of his time managing governmental regulation compliance and EH&S. Management believes that the Company has an exemplary safety record.

### **Employees**

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. Mr. Joseph E. Cross was replaced by Mr. Jess Jankowski, initially as Acting Chief Executive Officer. Mr. Jankowski was appointed President and Chief Executive Officer in February 2009. In addition to his new duties, Mr. Jankowski will continue serving the Company as Vice President of Finance and Chief Financial Officer on a temporary basis. The Company is currently conducting a search for a new CFO. Also, in the third quarter of 2008, the Company appointed Ms. Nancy Baldwin to the position of Vice President, Human Resources and Investor Relations, Dr. Patrick Murray to the position of Vice President, Research and Development and Mr. David Nelson to the position of Vice President, Sales and Marketing.

On December 31, 2008, the Company had a total of 54 full-time employees, 9 of whom hold advanced degrees. Nanophase has no collective bargaining agreements or relationships.



On March 3, 2009, the Company announced the resignations of Mr. Robert Haines its then-current Vice-President of Operations and Dr. Richard Brotzman its then-current Chief Technology Officer. Additionally, on February 19, 2009, the Company eliminated twelve positions within the Operations group as a result of a reorganization plan implemented to align the organization with current demand based upon current economic conditions and the Company's shift in strategy to add a more customer-focused direct selling approach. During this process, management continues to seek to build its marketing and applications development capabilities.

### **Backlog**

Nanophase does not believe that a backlog as of any particular date is indicative of future results. The Company's sales are made primarily pursuant to purchase orders for delivery of nanomaterials. Nanophase has some agreements that give customers the right to purchase a specific quantity of nanomaterials during a specified time period. These agreements, however, do not obligate the customers either to purchase any particular quantity of such nanomaterials at all. The quantities actually purchased by the customer, as well as the shipment schedules, are frequently revised during the agreement term to reflect changes in the customer's needs. The Company does not believe that such agreements are meaningful for determining backlog amounts.

### **Business Segment and Geographical Information**

See Note 15 to the Financial Statements for additional information.

### **Key Customers**

A limited number of key customers account for a substantial portion of the Company's commercial revenue. In particular, revenue from three customers (one of which is also a market partner); BASF, the Company's largest customer in architectural coatings, and Rohm and Haas Electronic Materials, constituted approximately 48.4%, 24.3% and 11.6%, respectively, of the Company's 2008 total revenue. The Company's customers are significantly larger than the Company and are able to exert a high degree of influence over the Company. While the Company's agreements with BASF is a long-term agreement, it may be terminated by them under certain circumstances with reasonable notice and do not provide any guarantees that BASF will continue to buy the Company's products. The loss of one of these key customers or the failure to attract new customers could have a material adverse effect on the Company's business, results of operations and financial condition.

### **Forward-Looking Statements**

Nanophase wants to provide investors with more meaningful and useful information. As a result, this Annual Report on Form 10-K (the "Form 10-K") 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 2009 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, supply agreement or technology 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 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; and the resolution of litigation in which the Company may become involved. Readers of

this Annual Report on Form 10-K 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.

### **Investor Information**

The Company is subject to the informational requirements of the Securities Exchange Act of 1934 (the Exchange Act) and, accordingly, files periodic reports, proxy statements and other information with the Securities and Exchange Commission (the SEC). Such reports, proxy statements and other information may be obtained by visiting the Public Reference Room of the SEC at 450 Fifth Street, NW, Washington, DC 20549 or by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers that file electronically.

Financial and other information may also be accessed at the Company's web site. The address is [www.nanophase.com](http://www.nanophase.com). The Company makes available, free of charge, copies of its annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after filing such material electronically with, or otherwise furnishing it to, the SEC, and intends to make all such reports and amendments to reports available free of charge on its web site.

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

Not required for a smaller reporting company.

### **Item 1B. Unresolved Staff Comments**

Not required for a smaller reporting company. However, there are currently no open comments from the SEC staff.

### **Item 2. Properties**

Nanophase operates a 36,000 square-foot production, research and headquarters facility in Romeoville, Illinois and a 20,000 square-foot production facility in Burr Ridge, Illinois. Both locations are in Chicago suburbs. The Company also leases a 9,000 square-foot offsite warehouse in the same vicinity.

The Company's manufacturing operations in Burr Ridge are certified under ISO 9001:2000, and the Company's management believes that its manufacturing operations are within the current Good Manufacturing Practices (cGMP) requirements of the FDA for products that require such compliance. The Company's facilities are also ISO 14001:2004 certified which is the international standard for environmental management. The Burr Ridge facility has a quality control laboratory designed for the dual purposes of validating operations to cGMP and ISO standards and production process control. This laboratory is equipped to handle many routine analytical and in-process techniques the Company currently requires.

The Romeoville facility houses the Company's headquarters, advanced engineering, manufacturing (nanoparticle coating, nanoparticle dispersion and pilot-scale manufacturing) and three applications development laboratories. All Romeoville manufacturing processes are certified to ISO 9001:2000 and ISO 14001:2004, and the Company's management believes that the nanoparticle coating used for sunscreens and personal care is in compliance with the cGMP requirements of the FDA.

Nanophase leases both its Romeoville and Burr Ridge facilities. On October 18, 2005 Nanophase entered into a Lease Amendment amending its current lease for its facility in Romeoville, Illinois, which, among other

things, extended the term of such lease through December 31, 2015 (with the option to extend the term for two additional five year periods) and granted Nanophase an option to purchase such facility in certain instances. The Company renewed its Burr Ridge facility lease in September 2004 (a three year initial term with the option to extend that term for three additional one-year periods). The initial term of the new lease expired in September 2007. The Company exercised its option to extend the lease for one year, which expires in September 2009. At this time, Nanophase intends to extend this lease for an additional one-year term.

Management believes that the Company's leased facilities provide sufficient capacity to fulfill current known customer demand as well as additional space to enable expansion of key production processes. Management also believes that the Company's capital expenditures made in 2008, and budgeted for 2009, will support currently anticipated demand from existing customers. The Company's actual future capacity requirements will depend on many factors, including new and potential customer acceptance of the Company's current and potential nanomaterials and product applications, unknown and currently unplanned growth from existing customers, continued progress in the Company's research and development activities and product testing programs and the magnitude of these activities and programs.

**Item 3. Legal Proceedings**

The Company is not currently a party to any material legal proceedings.

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

No matters were submitted to a vote of the Company's security holders during the fourth quarter of 2008.

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**PART II**
**Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities**

The Company's common stock is traded on the NASDAQ Global Market under the symbol NANX. The following table sets forth, for the periods indicated, the range of high and low sale prices for the common stock on the NASDAQ Global Market:

	High	Low
Fiscal year ended December 31, 2008:		
First Quarter	\$ 4.17	\$ 3.73
Second Quarter	3.67	2.09
Third Quarter	2.44	1.17
Fourth Quarter	1.93	0.76
Fiscal year ended December 31, 2007:		
First Quarter	\$ 6.64	\$ 5.25
Second Quarter	7.46	5.70
Third Quarter	7.25	5.59
Fourth Quarter	7.18	3.05

On March 13, 2009, the last reported sale price of the common stock was \$.89 per share, and there were approximately 149 holders of record of the common stock.

The Company has never declared or paid any cash dividends on its common stock and does not currently anticipate paying any cash dividends or other distributions on its common stock in the foreseeable future. The Company intends instead to retain any future earnings for reinvestment in its business. Any future determination to pay cash dividends will be at the discretion of the Company's Board of Directors and will be dependent upon the Company's financial condition, results of operations, capital requirements and such other factors deemed relevant by the Board of Directors.

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 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 \$5.8968 per share and received gross proceeds of \$5.0 million. The Company expects to register the common stock held by RHEM by way of a Form S-3 after the filing of this Form 10-K.

**Equity Compensation Plan Information**

The following table gives information about our common stock that may be issued upon the exercise of options and rights under all of our existing compensation plans on December 31, 2008, including the 1992 Amended and Restated Stock Option Plan and the 2001 and the Amended 2004 Equity Compensation Plan and the 2005 Non-Employee Director Restricted Stock Plan.

<b>Plan Category</b>	<b>(a) Number of Securities to be Issued Upon Exercise of Outstanding Options and Rights</b>	<b>(b) Weighted Average Exercise Price of Outstanding Options and Rights</b>	<b>(c) Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a))</b>	<b>(d) Total of Securities Reflected in Columns (a) and (c)</b>
Plans Approved by Shareholders	1,729,826(1)	\$ 5.66	552,955(2)	2,282,781
Plans Not Approved by Shareholders	None	\$	None	

- (1) Consists of the 1992 Amended and Restated Stock Option Plan, the 2001 and the Amended 2004 Equity Compensation Plans and shares of authorized but unissued Preferred Stock.
- (2) Consists of shares available for future issuance under the Amended 2004 Equity Compensation Plan and the 2005 Non-Employee Director Restricted Stock Plan.

**Item 6. Selected Financial Data**

Not required for a smaller reporting company.

**Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations**

*The following discussion and analysis should be read in conjunction with risks discussed in other filings made by the Company with the Securities and Exchange Commission, and the financial statements and related notes thereto appearing elsewhere in this Form 10-K. When used in the following discussions, the words anticipates, believes, estimates, expects, plans, intends and similar expressions are intended to identify forward-looking statements. Such statements are subject to certain risks, uncertainties and contingencies that could cause actual results, performance or achievements to differ materially from those expressed in, or implied by, such statements. See the Forward Looking Statements section in Part I., Item 1.*

**Overview**

Nanophase is a nanomaterials and applications 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, medical diagnostics 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 current and potential customers 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. Management expects growth in end-user (customers of Nanophase's customers) adoption in 2009 and beyond and revenue growth in these areas to follow thereafter. Management further expects that the Company will develop additional customers to help it achieve growth in certain markets 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.

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 \$73.5 million from inception through December 31, 2008.

**Critical Accounting Policies**

Investments are classified by the Company at the time of purchase for appropriate designation and are reevaluated as of each balance sheet date. The Company's policy is to classify money market funds, certificates

of deposit and United States treasury bills as investments. These investments are classified as held-to maturity when the Company has the positive intent and ability to hold the securities to maturity. Held-to maturity securities are stated at amortized cost and are adjusted to maturity for the amortization of premiums and accretion of discounts. Such adjustments for amortization and accretion are included in interest income.

The Company has also made investments in auction rate securities ( ARS ) totaling \$5.34 million as of March 3, 2009. These ARS holdings 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 ( 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. However, these failed auctions have caused the Company to change the level of inputs to determine their fair values. The values of the Company s ARS s were estimated using a discounted cash flow model of analysis. Since these inputs were not observable, they are classified as level 3 inputs (see Note 3). As a result, for the period ending December 31, 2008, the Company recognized an other than temporary impairment loss on the ARS s in the amount of \$660,000 which was reflected in the statement of operations. The Company s valuation models assume an average maturity of the ARS s in excess of one year; therefore, the Company has classified these securities as long-term on the December 31, 2008 balance sheet.

The Company s investments are held by its investment bank who is a member of all major stock exchanges and the Securities Investor Protection Corporation (SIPC). Securities and cash held in custody by the Company s investment bank are afforded complete protection for the Company s investment positions through SIPC and a commercial insurer (commonly known as Excess SIPC coverage); however, it does not protect against losses from the rise and fall in market value of investments.

See Notes 2 and 3 to the financial statements, Summary of Significant Accounting Policies for a further discussion of liquidity issues.

The Company has decided to change our method of accounting for patent costs during the fourth quarter of 2008. The Company will now expense patent costs instead of capitalizing them.

The Company believes that it no longer has the ability to reasonably predict whether a patent will be granted, when it will be granted or whether all claims in a granted patent ultimately will be upheld. Therefore, management believes that it is preferable to expense all patent costs incurred as period costs. The expensing of patent costs as a period cost will more closely align these expenses with when the Company is recognizing the related revenue from the patented technology.

For more information regarding the impact of this accounting change, refer to Note 2 in the Notes to Financial Statements.

## **Results of Operations**

### **Years Ended December 31, 2008 and 2007**

Total revenue decreased to \$10,213,817 in 2008, compared to \$12,209,108 in 2007. A substantial majority of the Company s revenue for the year ended December 31, 2008 is from the Company s three largest customers. See Note 15 to the Financial Statements for additional information regarding the revenue the Company derived from these three customers for the year ended December 31, 2008. Product revenue decreased to \$9,744,759 in 2008, compared to \$11,766,565 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 BASF Corporation 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 \$469,058 in 2008, compared to \$442,543 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 year ended December 31, 2008 was from BASF Corporation, the Company's largest customer, from the Company's second largest customer for applications in architectural coatings and from Rohm and Haas Electronic Materials.

Cost of revenue generally includes costs associated with commercial production and customer development arrangements. Cost of revenue decreased to \$7,501,468 in 2008, compared to \$9,032,187 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 NanoArc<sup>®</sup> synthesis and dispersion technologies, for targeted applications and new markets through 2009 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 2009 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 2009 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. 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, as dictated by our customer-driven marketing strategy. 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 \$1,764,284 in 2008, compared to \$1,773,565 in 2007. The net decrease was primarily attributed to decreases in salary expenses partially offset by increases in stock compensation (non-cash), travel and recruiting and relocation expenses. The Company does not expect research and development expense to increase significantly in 2009.

Selling, general and administrative expense decreased to \$5,390,771 in 2008, compared to \$5,560,960 in 2007. The net decrease was primarily attributed to decreases in salary expenses and consulting fees partially offset by increases in legal fees and recruiting and relocation 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 a total of \$1,578,859 of cash and non-cash severance charges. Included in these charges were salaries and benefits, accelerated vesting of stock options (non-cash) and other expenses. Of these charges, approximately \$593,000, or 38%, were related to the accelerated vesting of stock options which have no cash impact and are expected to have a minimally dilutive effect if any. Mr. Joseph E. Cross was replaced by Mr. Jess Jankowski, initially as Acting Chief Executive Officer. Mr. Jankowski was then appointed President and Chief Executive Officer in February 2009. In addition to his new duties, Mr. Jankowski will continue to serve the Company as Vice President of Finance and Chief Financial Officer on a temporary basis. Also, in the third quarter of 2008, the Company appointed Ms. Nancy Baldwin to the position of Vice President, Human Resources and Investor Relations, Dr. Patrick Murray to the position of Vice President, Research and Development and Mr. David Nelson to the position of Vice President, Sales and Marketing.

Interest income decreased to \$383,083 in 2008, compared to \$661,512 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 investments amounted to \$12,971,957 on December 31, 2008, compared to \$16,708,919 on December 31, 2007. The net cash used in the Company's operating activities was \$2,560,783 and \$1,808,886 for the years ended December 31, 2008 and 2007, respectively. 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 \$2,733,471 for the year ended December 31, 2008 compared to \$8,987,887 of net cash used for the year ended December 31, 2007. Capital expenditures amounted to \$499,967 and \$1,226,736 for the years ended December 31, 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 \$12,694 for the year ended December 31, 2008 compared to \$11,227,461 of net cash provided by financing activities, primarily due to the Company securing financing through an equity investment in July 2007, for the year ended December 31, 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 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 million, in order to avoid triggering a transfer of technology and equipment to the Company's largest customer. The Company had approximately \$13 million in cash, cash equivalents and investments and debt net of unamortized debt discount of less than \$1.6 million on December 31, 2008. This supply agreement and its covenants are more fully described in Note 14 to the Company's Financial Statements.

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 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 2009 will be approximately \$700,000, but could be even greater due to the factors discussed above.

As of March 20, 2009, the Company's investments in auction rate securities totaled \$5.34 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 (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. 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. However, these failed auctions have caused the Company to change the level of inputs to determine their fair values. Should current market conditions for ARS persist, the Company may be forced to sell some portion or all of its holdings at a discount to face value of between 6% and 50% in order to avoid a potential liquidity crisis in 2010. Management has undertaken aggressive measures to reduce cash used in operations in hopes of avoiding a discounted sale of any of these ARS's prior to the market for them stabilizes. The values of the Company's ARS's were estimated using a discounted cash flow model of analysis. Since these inputs were not observable they are classified as level 3 inputs (see Note 3). As a result, for the period ending December 31, 2008, the Company recognized an other than temporary impairment loss on the ARS's in the amount of \$660,000 which was reflected in the statement of operations. The Company's valuation models assume an average maturity of the ARS's in excess of one year; therefore, the Company has classified these securities as long-term on the December 31, 2008 balance sheet.

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 December 31, 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 expired 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.

#### **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 to satisfy 2009 operational needs. See Notes 2 and 3 to the financial statements, Summary of Significant Accounting Policies for a further discussion of liquidity issues.

#### **Item 7A. Quantitative and Qualitative Disclosures About Market Risk**

Not required for a smaller reporting company.

#### **Item 8. Financial Statements and Supplementary Data**

The financial statements, with the report of independent auditors, listed in Item 15 are included in this Form 10-K.

#### **Item 9. Changes in and Disagreements With Accountants on Accounting and Financial Disclosure**

None.

#### **Item 9A (T). Controls and Procedures**

Management is responsible for the preparation, integrity and fair presentation of the financial statements and Notes to the financial statements. The financial statements were prepared in accordance with the accounting principles generally accepted in the U.S. and include certain amounts based on management's judgment and best estimates. Other financial information presented is consistent with the financial statements.

Management is also responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934. The Company's internal control over financial reporting is designed under the supervision of the Company's principal executive and financial officers in order to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. The Company's internal control over financial reporting includes those policies and procedures that:

- (i) Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets of the Company;
- (ii) Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company; and
- (iii) Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company's internal control over financial reporting as of December 31, 2008. In making this assessment, management used the criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

Based on our assessment and those criteria, management believes that the Company maintained effective internal control over financial reporting as of December 31, 2008.

This annual report does not include an attestation report of the company's registered public accounting firm regarding internal control over financial reporting. Management's report was not subject to attestation by the company's registered public accounting firm pursuant to temporary rules of the Securities and Exchange Commission that permit the company to provide only management's report in this annual report.

**Item 9B. Other Information**

None.

## PART III

**Item 10. Directors, Executive Officers and Corporate Governance**  
**DIRECTORS**

Set forth below is certain information regarding the directors of the Company.

Name	Age	Position with Company	Served as		Class
			Director Since	Term Expires	
James A. Henderson	74	Director	2001	2010	I
James A. McClung, Ph.D.	71	Director	2000	2010	I
R. Janet Whitmore	54	Director	2003	2010	I
Jess A. Jankowski	43	Director	2009	2011	II
Richard W. Siegel, Ph.D.	71	Director	1989	2011	II
George A. Vincent, III	64	Vice Chairman of the Board of Directors	2007	2009	III
Donald S. Perkins	81	Chairman of the Board of Directors	1998	2009	III
Jerry K. Pearlman	69	Director	1999	2009	III

**Mr. Henderson** has served as a director of the Company since July 2001. He retired as Chairman and Chief Executive Officer of Cummins Engine Company in December 1999, after joining the company in 1964. Mr. Henderson became President and Chief Operating Officer of Cummins in 1977, was promoted to President and Chief Executive Officer in 1994 and served as Chairman and Chief Executive Officer from 1995 until his retirement in 1999. Mr. Henderson attended Culver Military Academy, holds an A.B. in public and international affairs from Princeton University and an M.B.A. from Harvard Business School. Mr. Henderson also currently serves as a member of the Board of Directors of Hillendbrand, Inc. Mr. Henderson previously served as a director of AT&T, Inc., International Paper, Rohm & Haas and Ryerson, Inc. He serves as Chairman of the Board of the Culver Education Foundation and is a past Chair of the Executive Committee of the Princeton University Board of Trustees.

**Mr. McClung** has served as a director of the Company since February 2000. He retired as Senior Vice President and executive officer for FMC Corporation (currently split in to three public corporations: 1) FMC, 2) FMC Technology and 3) John Bean Technologies), a leading producer of a diversified portfolio of chemicals and machinery. He has over 30 years of international business development experience in over 75 countries, having managed and developed new technologies and production processes for diversified global businesses, including specialized chemicals and machinery, while living in the United States, Europe and Africa. Mr. McClung currently serves as Corporate Board member of Alticor (Amway), NCCI and Hu-Friedy. He was a founding member of the U.S.-Russia Business Council and is active in other international business organizations, such as the Japan American Society, Chicago Council on Global Affairs and the Economic Club of Chicago. He serves as a board director at Thunderbird School of Global Management and the College of Wooster (Ohio). Mr. McClung earned a Bachelor's degree from the College of Wooster, a Master's degree from the University of Kansas and a Doctorate from Michigan State University.

**Ms. Whitmore** joined the board in November 2003. She is currently a director of Silverleaf Resorts, Inc., where she serves as Chairman of the Compensation Committee and as a member of the Audit Committee. She is a former director of Epoch Biosciences, a supplier of proprietary products used to accelerate genomic analysis. Ms. Whitmore is Founder of Benton Consulting, LLC, which specializes in business development and processes. From 1976 through 1999, Ms. Whitmore held numerous engineering and finance positions at Mobil Corporation,

including Mobil's Chief Financial Analyst and Controller of Mobil's Global Petrochemicals Division. Ms. Whitmore holds a B.S. degree in Chemical Engineering from Purdue University and an M.B.A. from Lewis University.

**Mr. Jankowski** joined the board in February 2009. He has served as Controller of the Company since joining in 1995 until September 2008. He was elected Secretary and Treasurer in November 1999, Acting Chief Financial Officer in January 2000, Vice President in April 2002, Vice President of Finance and Chief Financial Officer in April 2004 and President and Chief Executive Officer in February 2009. From 1990-1995 he served as Controller for two building contractors in the Chicago area, during which time he had significant business development responsibilities. From 1986 to 1990 he worked for Kemper Financial Services in their accounting control corporate compliance unit, serving as unit supervisor during his last two years. Mr. Jankowski holds a B.S. in accountancy from Northern Illinois University and an M.B.A. from Loyola University. He has been an active member of the AeA Midwest CFO Committee since 2006, and has served on the AeA Midwest Board since 2008. Mr. Jankowski was appointed to the Romeoville Economic Development Commission in 2004. He has also served on the advisory board of NITECH (Formerly WESTEC), an Illinois Technology Enterprise Center focusing on the commercialization of advanced manufacturing technologies from 2003 to 2008.

**Dr. Siegel** is a co-founder of the Company and has served as a director of the Company since 1989. Dr. Siegel served as a consultant to the Company from 1990 to 2002 with regard to the application and commercialization of nanomaterials. Dr. Siegel is an internationally recognized scientist in the field of nanomaterials. During his tenure on the research staff at Argonne National Laboratory from July 1974 to May 1995, he was the principal scientist engaged in research with the laboratory-scale synthesis process that was the progenitor of the Company's physical-vapor-synthesis production system. Dr. Siegel has been the Robert W. Hunt Professor in Materials Science and Engineering at Rensselaer Polytechnic Institute since June 1995, and served as Department Head from 1995 to 2000. In April 2001, Dr. Siegel became the founding Director of the newly created Rensselaer Nanotechnology Center at the Institute. During 1995-1998, he was also a visiting professor at the Max Planck Institute for Microstructure Physics in Germany on an Alexander von Humboldt Research Prize received in 1994. During 2003-2004 he was a visiting professor in Japan on a RIKEN Eminent Scientist Award. He chaired the World Technology Evaluation Center worldwide study of nanostructure science and technology for the U.S. government, has served on the Council of the Materials Research Society and as Chairman of the International Committee on Nanostructured Materials. He also served on the Committee on Materials with Sub-Micron Sized Microstructures of the National Materials Advisory Board and was the co-chairman of the Study Panel on Clusters and Cluster-Assembled Materials for the U.S. Department of Energy. He served on the Nanotechnology Technical Advisory Group to the U.S. President's Council of Advisors on Science and Technology during 2003-2009. Dr. Siegel holds an A.B. degree in physics from Williams College and an M.S. degree and Ph.D. from the University of Illinois at Urbana-Champaign.

**Mr. Vincent** has served as a Director of the Company since November 2007. In August 2008, he was appointed as Vice Chairman of the Company's Board of Directors. He is currently Chairman and Commercial Development Officer of The HallStar Company, where he served as CEO for twenty years. HallStar is a chemical manufacturer and innovator specializing in material science, marketing its products worldwide, primarily into the polymer and personal care industries. Prior to HallStar, Mr. Vincent held positions in purchasing, sales, commercial development and strategic planning with FMC Corporation (chemicals) and General Electric Company (chemicals and plastics). Mr. Vincent has served as Chairman of the Illinois Manufacturers' Association (IMA) and the Chemical Industry Council of Illinois (CICI), as well as Director of the American Chemistry Council (ACC). Mr. Vincent serves on the Boards of several closely-held companies in the chemicals and materials industry sector. Mr. Vincent holds a Bachelor of Science degree in Chemistry from Dartmouth College and an M.B.A. degree from Harvard Business School.

**Mr. Perkins** has served as a director of the Company since February 1998. Mr. Perkins retired from Jewel Companies, Inc., the retail supermarket and drug chain, in 1983. He had been with Jewel since 1953, serving as President from 1965 to 1970, as Chairman of the Board of Directors from 1970 to 1980, and as Chairman of the

Executive Committee until his retirement. He has served on a number of corporate boards and is currently a director of LaSalle Hotel Properties and La Salle U.S. Realty Income and Growth Fund III. For more than 30 years, he has served on corporate boards including AT&T, Aon, Corning, Cummins Engine, Eastman Kodak, Firestone, Inland Steel Industries, Kmart, Lucent Technologies, The Putnam Funds, Springs Industries and Time-Warner, Inc. He has served as a Trustee of The Ford Foundation and The Brookings Institution, as a member of The Business Council and as a Protector of the Thyssen-Bornemisza Continuity Trust. Mr. Perkins is a life trustee and was Vice Chairman of the Board of Trustees of Northwestern University. He is also a member of the Civic Committee of The Commercial Club of Chicago, and Advisory Boards for Blue Ridge Partners, Shields-Meneley, Syrus, RoundTable Healthcare Partners L.P., Northwestern University's School of Communication and its School of Education and Social Policy. Mr. Perkins holds a B.A. degree from Yale University and an M.B.A. degree from the Harvard Graduate School of Business Administration.

**Mr. Pearlman** has served as a director of the Company since April 1999. Mr. Pearlman retired as Chairman of Zenith Electronics Corporation in November 1995. He joined Zenith as controller in 1971 and served as chief executive officer from 1983 through April 1995. Mr. Pearlman is currently a director of Smurfit Stone Container Corporation. He is a life trustee of Northwestern University and a life director and past chairman of the board of Evanston Northwestern Healthcare. Mr. Pearlman graduated from Princeton with honors from the Woodrow Wilson School and from Harvard Business School with highest honors.

**Meetings of the Board and Committees** During the year ended December 31, 2008, the Board of Directors held five formal meetings. No director missed more than one board and committee meeting held during 2008 (for all committees on which a particular director served).

**Committees of the Board of Directors** The Board of Directors has established an Audit and Finance Committee, Compensation and Governance Committee and a Nominating Committee, each comprised entirely of independent directors who are not officers or employees of the Company. The members of the Audit and Finance Committee are Mr. McClung (Chairman), Mr. Henderson, Mr. Pearlman, Mr. Perkins and Mr. Vincent. The members of the Compensation and Governance Committee are Mr. Pearlman (Chairman), Mr. Henderson, Mr. Perkins and Mr. Vincent. The members of the Nominating Committee are Mr. Henderson (Chairman), Mr. McClung, Mr. Pearlman, Mr. Perkins, Dr. Siegel and Mr. Vincent.

The Audit and Finance Committee generally has responsibility for retaining the Company's independent public auditors, reviewing the plan and scope of the accountants' annual audit, reviewing the Company's internal control functions and financial management policies and reporting to the Board of Directors regarding all of the foregoing. The Audit and Finance Committee held seven formal meetings in 2008. The Board of Directors has determined that Mr. Pearlman, Mr. Perkins and Mr. Henderson, all of whom serve on the Audit and Finance Committee, are audit committee financial experts as described in applicable SEC rules. Each member of the Audit and Finance Committee is independent, as defined in Rule 4200(a) (15) of the National Association of Securities Dealers' listing standards and applicable SEC rules.

The Compensation and Governance Committee generally has responsibility for establishing executive officer and key employee compensation, reviewing and establishing the Company's executive compensation and general corporate governance policies and reporting to the Board of Directors regarding the foregoing. The Compensation and Governance Committee also has responsibility for administering the Amended 2004 Equity Compensation Plan and the 2006 Stock Appreciation Rights Plan, determining the number of options, if any, to be granted to the Company's employees and consultants pursuant to the Amended 2004 Equity Compensation Plan and reporting to the Board of Directors regarding the foregoing. The Compensation and Governance Committee held three formal meetings in 2008.

The Nominating Committee generally has responsibility for nominating candidates to serve on the Board of Directors. All members of the Nominating Committee are independent. The Nominating Committee was formed in 2004 and held one formal meeting in 2008.

**EXECUTIVE OFFICERS**

Set forth below is certain information regarding the named executive officers of the Company as of the date of this Form 10-K who are not identified above as directors.

<b>Name</b>	<b>Age</b>	<b>Position</b>
David Nelson	41	Vice President Sales and Marketing
Nancy Baldwin	57	Vice President Human Resources and Investor Relations
Patrick Murray, Ph.D.	42	Vice President Research and Development

**Mr. Nelson** joined the Company in April 2007 as Vice President of Sales. He was appointed Vice President of Sales and Marketing in August 2008. He is an executive who brings over 15 years of business development experience. Prior to joining Nanophase, Mr. Nelson started and managed the LCD business for Eastman Chemical Company. Prior to that, he was a consultant with Mercer Management Consulting working on corporate strategy development and implementation. Mr. Nelson has also started two consumer goods manufacturing companies and has served as National Sales Manager for Pelouze Scale Company. He holds a B.S. in Marketing from Miami University and a M.B.A. from the Kellogg Graduate School of Management at Northwestern University.

**Ms. Baldwin** has served as the Director of Human Resources and Information Technology since joining the company in 2000. In September of 2008, she was appointed as the Company's Vice-President of Human Resources and Investor Relations. Prior to joining Nanophase, she served as Vice-President of iLink Global, and Chief Human Resources Officer at the Marketing Store, a global supplier to McDonald's Corporation. Previous experience includes 14 years at Arthur Andersen, LLP & Andersen Consulting, LLP in various positions. Ms. Baldwin has a B.S. in Education from Western Illinois University and post graduate studies at Northern Illinois University. She is currently an active member of the Will County Three Rivers Manufacturing Human Resources Association.

**Dr. Murray** joined the Company in 2001 as a senior scientist. He was promoted to Director of Research and Development in 2005 and appointed Vice President of Research and Development in 2008. He holds an undergraduate degree in Biochemistry from Illinois Benedictine College (Benedictine University) and a doctorate in Organic Chemistry from the University of Illinois at Urbana-Champaign. Dr. Murray has over 15 years of experience in the areas of polymer synthesis, particle dispersion, chemical process development and technical project management. Dr. Murray has been focused on dispersion product development and technical support for business development. Prior to joining Nanophase, Dr. Murray held various research and management positions at Nalco Chemical Company.

The Board of Directors elects executive officers and such executive officers, subject to the terms of their employment agreements, serve at the discretion of the Board of Directors. Messrs. Jankowski and Nelson, Ms. Baldwin and Dr. Murray each have employment agreements with the Company. See Item 11 below. There are no family relationships among any of the directors or officers of the Company.

**SECTION 16(A) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE**

Section 16 of the Securities Exchange Act of 1934, as amended (the Exchange Act), requires the Company's officers (as defined under Section 16), directors and persons who beneficially own greater than 10% of a registered class of the Company's equity securities to file reports of ownership and changes in ownership with the Securities and Exchange Commission. Based solely on a review of the forms it has received and on written representations from certain reporting persons that no such forms were required for them, the Company believes that during 2008, all Section 16 filing requirements applicable to its officers, directors and 10% beneficial owners were complied with by such persons.



### CODE OF ETHICS

The Company has adopted a Code of Business Conduct and Ethics ( Code of Ethics ) that applies to, among others, the Company's principal executive officer, principal financial officer and principal accounting officer or controller, or persons performing similar functions. The Code of Ethics is posted on its Internet web site [www.nanophase.com](http://www.nanophase.com) under the Investor Relations section. In the event that the Company makes any amendment to, or grants any waiver from, a provision of the Code of Ethics that requires disclosure under applicable SEC rules, the Company intends to disclose such amendment or waiver on its web site.

#### **Item 11. Executive Compensation** *Compliance with Section 162(m)*

The Compensation Committee currently intends for all compensation paid to the executive officers to be tax deductible to the Company pursuant to Section 162(m) of the Internal Revenue Code of 1986, as amended ( Section 162(m) ). Section 162(m) provides that compensation paid to the executive officers in excess of \$1,000,000 cannot be deducted by the Company for Federal income tax purposes unless, in general, (1) such compensation is performance-based, established by a committee of outside directors and objective, and (2) the plan or agreement providing for such performance-based compensation has been approved in advance by stockholders. The Compensation Committee believes that the requirements of Section 162(m) are uncertain at this time and may arbitrarily impact the Company. In the future, the Compensation Committee may determine to adopt a compensation program that does not satisfy the conditions of Section 162(m) if in its judgment, after considering the additional costs of not satisfying Section 162(m), such program is appropriate.

## SUMMARY COMPENSATION TABLE

The following table sets forth a summary of the compensation for each of our named executive officers in U.S. dollars for the financial year ended December 31, 2008.

NAME AND PRINCIPAL POSITION	YEAR	SALARY (\$)	BONUS \$(1) (d)	OPTION AWARDS \$(2) (f)	NON-EQUITY INCENTIVE PLAN	ALL OTHER	TOTAL
					COMPENSATION \$(3) (g)	COMPENSATION \$(4) (i)	(\$) (j)
<b>Joseph E. Cross</b> Its then President and Chief Executive Officer	2008	\$ 366,923	\$ - 0-	\$ 67,437		\$ 22,630	\$ 456,990
	2007	\$ 340,000	\$ 80,000	\$ 64,950		\$ 27,794	\$ 512,744
<b>Jess Jankowski</b> Chief Executive Officer	2008	\$ 196,000	\$ 125,000	\$ 51,702		\$ 23,626	\$ 396,328
	2007	\$ 180,000	\$ 35,000	\$ 58,455		\$ 22,019	\$ 295,474
<b>Kevin J. Wenta</b> Its then Executive Vice President Sales and Marketing	2008	\$ 282,000	\$ - 0-	\$ 62,941		\$ 21,430	\$ 366,371
	2007	\$ 270,000	\$ 60,000	\$ 385,890		\$ 24,174	\$ 740,064
<b>Robert Haines</b> Its then Vice President Operations	2008	\$ 233,000	\$ - 0-	\$ 51,702		\$ 24,112	\$ 308,814
	2007	\$ 220,000	\$ 40,000	\$ 48,713		\$ 23,743	\$ 332,456
<b>Richard Brotzman, Ph.D.</b> Its then Chief Technology Officer	2008	\$ 206,650	\$ - 0-	\$ 51,702		\$ 22,273	\$ 280,625
	2007	\$ 195,000	\$ 30,000	\$ 48,713		\$ 22,418	\$ 296,131

- (1) These amounts were earned in 2007 and 2008, but paid in early 2008 and 2009, respectively. Sixty percent of this bonus to Mr. Jankowski was authorized at the special meeting of the Board of Directors held on August 13, 2008, when Mr. Jankowski was appointed acting CEO. This bonus was in recognition of additional responsibilities required of Mr. Jankowski and paid in quarterly increments, with the balance of the full amount shown being paid in March of 2009.
- (2) The amounts in this column represent the dollar amount recognized for financial statement reporting purposes with respect to the 2008 and 2007 fiscal years in accordance with FAS 123(R). See Note 13 of the notes to our financial statements contained elsewhere in this Annual Report for a discussion of all assumptions made by us in determining the FAS 123(R) values.
- (3) None.
- (4) The amounts in this column represent 401(k) match, health and life insurance. Health insurance benefits are the same for all employees. Life insurance is provided in the amount of one times the annual base salary with a maximum of \$150,000.

**Employment Agreements**

The Company entered into an employment agreement with Mr. Cross dated November 9, 1999 (with an immaterial amendment thereafter to adjust language for changes in applicable governing employment law) which provided for an annual base salary of not less than \$220,000. The Company also granted to Mr. Cross options to purchase up to 100,000 shares of Common Stock at an exercise price of \$2.9375 per share and options to purchase up to 50,000 shares of Common Stock at an exercise price of \$2.1875, with options for one-fifth of such shares becoming exercisable on each of the first five anniversaries of the dates of grant. In accordance with Mr. Cross' departure from the Company effective August 13, 2008, he will receive severance benefits under his employment agreement in an amount equal to his base salary for 53 weeks and certain other severance benefits under his Separation Agreement and General Release of All Claims, effective as of August 25, 2008, with the Company.

Effective as of February 17, 2000, the Company entered into an employment agreement with Mr. Jankowski (with an immaterial amendment thereafter to adjust language for changes in applicable governing employment law) providing for an annual base salary of not less than \$95,000. No term has been assigned to Mr. Jankowski's employment agreement. If Mr. Jankowski is terminated other than for cause (as such term is defined in Mr. Jankowski's employment agreement), Mr. Jankowski will receive severance benefits in an amount equal to Mr. Jankowski's base salary for 27 weeks.

Effective as of January 8, 2007, the Company entered into an employment agreement with Mr. Wenta which provided for an annual base salary of not less than \$270,000. In addition, Mr. Wenta received a guaranteed bonus of \$24,300 payable in two installments of \$12,150 on July 8, 2007 and January 8, 2008. The Company also granted to Mr. Wenta options to purchase up to 75,000 shares of Common Stock at an exercise price of \$5.72 per share with options for one-fifth of such shares becoming exercisable on each of the first five anniversaries of the dates of grant. In accordance with Mr. Wenta's departure from the Company effective August 13, 2008, he will receive severance benefits under his employment agreement in an amount equal to his base salary for 52 weeks and certain other severance benefits under his Separation Agreement and General Release of All Claims, effective as of September 12, 2008, with the Company.

Effective as of November 2, 2000, the Company entered into an employment agreement with Mr. Haines (with an immaterial amendment thereafter to adjust language for changes in applicable governing employment law) providing for an annual base salary of not less than \$160,000. The Company also granted to Mr. Haines options to purchase up to 30,000 shares of Common Stock at an exercise price of \$10.1875 per share. In accordance with Mr. Haines' departure from the Company effective February 28, 2009, he will receive severance benefits under his employment agreement in an amount equal to his base salary for 53 weeks and certain other severance benefits under his Separation Agreement and General Release of All Claims, effective as of February 19, 2009, with the Company.

Effective as of September 26, 2001, the Company entered into an employment agreement with Dr. Brotzman (with an immaterial amendment thereafter to adjust language for changes in applicable governing employment law) providing for an annual base salary of not less than \$146,250. In accordance with Dr. Brotzman's departure from the Company effective February 28, 2009, he will receive severance benefits under his employment agreement in an amount equal to his base salary for 27 weeks and certain other severance benefits under his Separation Agreement and General Release of All Claims, effective as of February 19, 2009, with the Company.

## OUTSTANDING EQUITY AWARDS AT FISCAL YEAR-END

The following table sets forth information regarding each unexercised option held by each of our named executive officers as of December 31, 2008.

NAME	OPTION AWARDS				STOCK AWARDS	
	NUMBER OF SECURITIES UNDERLYING UNEXERCISED EARNED OPTIONS (#) EXERCISABLE (b)	EQUITY INCENTIVE PLAN AWARDS: NUMBER OF SECURITIES UNDERLYING UNEXERCISED UNEARNED OPTIONS (#) UNEXERCISABLE (d)	OPTION EXERCISE PRICE (\$) (e)	OPTION EXPIRATION DATE (f)	EQUITY INCENTIVE PLAN AWARDS: NUMBER OF SHARES OF STOCK THAT HAVE NOT VESTED (#) (i)	EQUITY INCENTIVE PLAN AWARDS: MARKET VALUE OF STOCK THAT HAVE NOT VESTED (\$) (j)
Joseph E. Cross	50,000	-0-	\$ 2.187	01/05/09		
	100,000	-0-	\$ 7.687	08/13/09		
	50,000	-0-	\$ 10.875	08/13/09		
	50,000	-0-	\$ 7.062	08/13/09		
	55,000	-0-	\$ 6.650	08/13/09		
	50,000	-0-	\$ 3.660	08/13/09		
	15,000	-0-	\$ 5.550	08/13/09		
	15,000	-0-	\$ 6.030	08/13/09		
	20,000	-0-	\$ 6.010	08/13/09		
	20,000	-0-	\$ 4.480	08/13/09		
	30,000	-0-	\$ 3.140	08/13/09		
Jess Jankowski	5,334	-0-	\$ 1.750	07/27/09		
	21,775	-0-	\$ 7.687	05/24/10		
	13,000	-0-	\$ 10.875	01/26/11		
	13,000	-0-	\$ 7.062	02/28/11		
	20,000	-0-	\$ 6.650	01/03/12		
	18,000	-0-	\$ 3.660	03/24/13		
	11,000	-0-	\$ 5.550	10/11/14		
	10,000	-0-	\$ 6.030	09/27/15		
	10,000	5,000	\$ 6.010	09/27/16		
	6,000	12,000	\$ 4.480	11/06/17		
	-0-	23,000	\$ 3.140	05/12/18		
Kevin J. Wenta	75,000	-0-	\$ 5.720	08/13/09		
	16,000	-0-	\$ 4.480	08/13/09		
	28,000	-0-	\$ 3.140	08/13/09		
Robert Haines	30,000	-0-	\$ 10.187	5/29/09		
	40,000	-0-	\$ 6.650	5/29/09		
	30,000	-0-	\$ 3.660	5/29/09		
	11,000	-0-	\$ 5.550	5/29/09		
	10,000	-0-	\$ 6.030	5/29/09		
	-0-	20,000	\$ 5.840	5/29/09		
	5,000	10,000	\$ 4.480	5/29/09		
-0-	23,000	\$ 3.140	5/29/09			
Richard Brotzman, Ph.D.	22,500	-0-	\$ 7.687	5/29/09		
	20,000	-0-	\$ 10.875	5/29/09		
	20,000	-0-	\$ 7.062	5/29/09		
	20,000	-0-	\$ 6.650	5/29/09		
	20,000	-0-	\$ 3.660	5/29/09		
	11,000	-0-	\$ 5.550	5/29/09		

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10,000	-0-	\$ 6.030	5/29/09
10,000	5,000	\$ 6.010	5/29/09
5,000	10,000	\$ 4.480	5/29/09
-0-	23,000	\$ 3.140	5/29/09

## POTENTIAL PAYMENT UPON TERMINATION OR CHANGE IN CONTROL

**Severance Protection.** Please see discussion of severance benefits under Item 11 Employment Agreements above.

**Change in Control.** Upon a change in control, the 2001 Equity Compensation Plan (the predecessor to the 2004 Equity Compensation Plan) and the 2004 Equity Compensation Plan provide that: (1) vesting under all outstanding stock options will automatically accelerate and each option will become fully exercisable; (2) the restrictions and conditions on all outstanding restricted shares shall immediately lapse; and (3) the holders of performance shares will receive a payment in settlement of the performance shares, in an amount determined by the Compensation Committee, based on the target payment for the performance period and the portion of the performance period that precedes the change in control. If the Company is not the surviving entity, the successor is required to assume all unexercised options. Under the Company's 1992 Stock Option Plan, the vesting of options issued under it is accelerated upon a sale or merger (as defined in the 1992 Stock Option Plan).

The following table quantifies the estimated payments that would be made in each covered circumstance:

NAME	TERMINATION BY COMPANY WITHOUT CAUSE (1)	CHANGE IN CONTROL (2)	INVOLUNTARY TERMINATION IN CONNECTION WITH OR FOLLOWING A CHANGE IN CONTROL (3)
Joseph E. Cross	\$ 373,979	\$ -0-	\$ 373,979
Jess Jankowski	\$ 101,770	\$ -0-	\$ 101,770
Kevin J. Wenta	\$ 282,000	\$ -0-	\$ 282,000
Robert Haines	\$ 237,481	\$ -0-	\$ 237,481
Richard Brotzman, PhD	\$ 107,300	\$ -0-	\$ 107,300

- (1) This amount represents the severance benefits that would be received under the executive officers employment agreement as described had the executive officer been terminated by the Company without cause on December 31, 2008.
- (2) This amount represents an estimate of the value that would have been received under the equity incentive plans had a change in control occurred as of December 31, 2008 and the executive officers benefited from an acceleration of vesting in the equity-based plan awards as described above. For this purpose, the share price as of December 31, 2008 was used. The amount represents the difference between the exercise price of any unvested options and \$1.05.
- (3) This amount represents an estimate of the payments and value that would have been received by the executive officers had the executive officers been terminated by the Company without cause on December 31, 2008 in connection with a change in control on this date. It is the sum of the first two columns.

### DIRECTOR COMPENSATION

Upon first being elected to the Board of Directors, each director of the Company who is not an employee or consultant of the Company (an Outside Director) is granted stock options to purchase 10,000 shares of common stock at the closing price as of the date of issuance (the fair market value). This initial option grant to an Outside Director vests over five years.

In 2008, the Company paid \$5,500 and \$4,500 as quarterly compensation to the Chairman of the Board of Directors and the Chairman of the Finance and Audit committee totaling \$22,000 and \$18,000 respectively, compared to all other directors being paid \$4,000 each, which will amount to an annual total of \$16,000 per outside director for services performed in their capacity as directors. In addition, the Chairman of the Board of Directors and the Chairman of the Finance and Audit committee will receive \$8,250 and \$6,750 respectively,

each calendar quarter in deferred common stock (the Director Restricted Stock Plan as described below) based on the closing price at the beginning of each quarter compared to \$6,000 to all other directors. For the year ended December 31, 2008 the Chairman of the Board of Directors and the Chairman of the Finance and Audit committee each received 14,349 and 11,718 shares respectively, with the total value of the compensation of approximately \$33,000 and \$27,000 per year compared to all other directors receiving 10,402 shares with the total value of the compensation of approximately \$24,000 per year.

In 2007, the Company paid \$4,000 as quarterly compensation to each of its directors, which will amount to an annual total of \$16,000 per Outside Director for services performed in their capacity as directors. In addition, each Outside Director will receive \$6,000 each calendar quarter in deferred common stock pursuant to the Director Restricted Stock Plan (as defined below) based on the closing price at the beginning of each quarter. For the year ended December 31, 2007 each director received 3,874 shares respectively, with the total value of the compensation of approximately \$24,000. Beginning in 2004, Mr. McClung's cash compensation is being paid to Lismore International, Incorporated.

In 2005, the Company adopted, and the Shareholders approved, the 2005 Non-Employee Director Restricted Stock Plan (the Director Restricted Stock Plan) which reserves 150,000 shares of the Company's common stock to be issued to Outside Directors in the form of restricted shares. In 2005, no awards were made under the Director Restricted Stock Plan. In 2005, the Company also adopted the Non-Employee Director Deferred Compensation Plan (the Director Deferred Compensation Plan) which permits an Outside Director to defer the receipt of director fees until separation from service or the Company undergoes a change in control. The Company amended the Director Restricted Stock Plan in 2005 to permit an Outside Director to defer receipt of restricted stock granted under it. The deferred restricted shares are accounted for under the Director Deferred Compensation Plan and issued upon separation from service or the Company's change in control. Under the Director Deferred Compensation Plan, the deferred fees that would have been paid in cash are deemed invested in 5 year U.S. Treasury Bonds during the deferral period. The accumulated hypothetical earnings are paid following the Outside Director's separation from service or the Company's change in control. The deferred fees that would have been paid as restricted shares are deemed invested in common stock of the Company during the deferral period. The Director Deferred Compensation Plan is an unfunded, nonqualified deferred compensation arrangement. In 2007 and 2008, all Outside Directors elected to defer receipts of all of the restricted shares they became entitled to under the Director Restricted Stock Plan. In 2007 and 2008, no Outside Directors elected to defer receipt of cash under the Director Deferred Compensation Plan.

All Outside Directors are reimbursed for their reasonable out-of-pocket expenses incurred in attending board and committee meetings.

**2008 Outside Director Compensation**

Name	Fees Earned or Paid in		Stock	Total(\$)
	Cash(\$)	Awards(\$)	Awards(\$)	
(a)	(b)	(c)	(h)	
James A. Henderson	\$ 16,000	\$ 24,000	\$ 24,000	\$ 40,000
James A. McClung	\$ 18,000	\$ 27,000	\$ 27,000	\$ 45,000
Jerry K. Pearlman	\$ 16,000	\$ 24,000	\$ 24,000	\$ 40,000
Donald S. Perkins	\$ 22,000	\$ 33,000	\$ 33,000	\$ 55,000
Richard W. Siegel, Ph.D.	\$ 16,000	\$ 24,000	\$ 24,000	\$ 40,000
R. Janet Whitmore	\$ 16,000	\$ 24,000	\$ 24,000	\$ 40,000
George A. Vincent, III	\$ 16,000	\$ 24,000	\$ 24,000	\$ 40,000

**Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters**  
**SECURITY OWNERSHIP OF MANAGEMENT**

**AND PRINCIPAL STOCKHOLDERS**

The following table sets forth, as of March 14, 2009 certain information with respect to the beneficial ownership of the common stock by (1) each person known by the Company to own beneficially more than 5% of the outstanding shares of common stock, (2) each Company director, (3) each of the Company's named executive officers and (4) all Company executive officers and directors as a group.

Name	Number of Shares Beneficially Owned (1)	Percent of Shares Beneficially Owned
Bradford T. Whitmore	5,150,326(2)	24.31%
Spurgeon Corporation	4,763,920(3)	22.48%
Grace Brothers, Ltd.	4,463,920(4)	21.07%
Altana Chemie, AG	1,256,281(5)	5.93%
James A. Henderson	22,410(6)	*
Richard W. Siegel, Ph.D.	223,350(7)	1.05%
James McClung	41,771(8)	*
Jerry Pearlman	39,948(9)	*
Donald S. Perkins	62,311(10)	*
R. Janet Whitmore	184,291(11)	*
George A. Vincent, III	3,334(12)	*
Jess Jankowski	149,192(13)	*
David Nelson	27,667(14)	*
Patrick Murray, Ph.D.	22,734(15)	*
Nancy Baldwin	32,000(16)	*
All executive officers and directors as a group (11 persons)	809,008(17)	3.79%

Unless otherwise indicated below, the persons address is the same as the address for the Company.

\* Denotes beneficial ownership of less than one percent.

- (1) Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission (the "Commission"). Unless otherwise indicated below, the persons in the above table have sole voting and investment power with respect to all shares of common stock shown as beneficially owned by them.
- (2) Includes 4,463,920 shares of common stock held by Grace Brothers, Ltd., 300,000 shares of common stock held by Grace Investments, Ltd. and 386,406 shares held by Bradford T. Whitmore. Mr. Whitmore is a general partner of both Grace entities. In such capacities, Mr. Whitmore shares voting and investment power with respect to the shares of common stock held by the Grace entities. This information is based on information reported on Form 4 filed on December 18, 2008 with the Commission by Mr. Whitmore. The address of the stockholder is 1560 Sherman Avenue, Suite 900, Evanston, Illinois 60201.
- (3) Includes 4,463,920 shares of common stock held by Grace Brothers, Ltd. and 300,000 shares of common stock held by Grace Investments, Ltd. Spurgeon Corporation is a general partner of both Grace entities and shares voting and investment power with respect to the shares of common stock held by such Grace entities. This information is based on information reported on Form 4 filed on December 18, 2008 with the Commission by Spurgeon Corporation. The address of the stockholder is 1560 Sherman Avenue, Suite 900, Evanston, Illinois 60201.



- (4) This information is based on information reported on Form 4 filed on December 18, 2008 with the Commission by Spurgeon Corporation and Bradford T. Whitmore. The address of the stockholder is 1560 Sherman Avenue, Suite 900, Evanston, Illinois 60201.
- (5) In accordance with the terms of the private placement of 1,256,281 shares of common stock to Altana Chemie AG, the Company filed a registration statement for the shares on February 5, 2007 which was declared effective by the SEC on May 18, 2007.
- (6) Includes Mr. Henderson s 14,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (7) Includes Dr. Siegel s 6,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (8) Includes Mr. McClung s 18,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (9) Includes Mr. Pearlman s 8,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (10) Includes Mr. Perkin s 13,500 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (11) Includes Ms. Whitmore s 10,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (12) Includes Mr. Vincent s 3,334 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (13) Includes Mr. Jankowski s 135,776 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (14) Includes Mr. Nelson s 25,667 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (15) Includes Dr. Murray s 22,734 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (16) Includes Ms. Baldwin s 32,000 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.
- (17) Includes all executive officers and directors as a group s 809,008 shares of common stock issuable upon exercise of options exercisable currently or within 60 days of March 15, 2009.

**Item 13. Certain Relationships and Related Transactions, and Director Independence**

Since the beginning of the Company s last fiscal year, the Company has not engaged in any transaction in which a related person had or will have a direct or indirect material interest.

**Director Independence.** The Board of Directors has determined that the following directors are independent as that term is defined in (i) paragraph (m) of Section 10A of the Securities Exchange Act of 1934 (15 U.S.C. 78f), and the rules and regulations of the Securities and Exchange Commission promulgated thereunder, and (ii) the rules of the NASDAQ stock market: Mr. McClung, Mr. Henderson, Mr. Pearlman, Mr. Perkins, Mr. Siegel and Mr. Vincent.

The Board of Directors has established an Audit and Finance Committee, Compensation and Governance Committee and a Nominating Committee each comprised entirely of independent directors. The members of the Audit and Finance Committee are Mr. McClung (Chairman), Mr. Pearlman, Mr. Perkins and Mr. Vincent. The members of the Compensation and Governance Committee are Mr. Pearlman (Chairman), Mr. Henderson, Mr. Perkins and Mr. Vincent. The members of the Nominating Committee are Mr. Henderson (Chairman), Mr. McClung, Mr. Pearlman, Mr. Perkins, Dr. Siegel and Mr. Vincent

**Item 14. Principal Accountant Fees and Services**

**Audit Fees.** The aggregate amount billed by our principal accountant, McGladrey & Pullen, LLP, for audit services performed for the fiscal years ended December 31, 2008 and 2007 was \$164,000 and \$217,000, respectively. Audit services include the auditing of financial statements, internal control over financial reporting and quarterly reviews.

**Audit Related Fees.** Total fees billed by McGladrey & Pullen, LLP were \$14,000 and \$19,000 for the years ended December 31, 2008 and 2007, which included costs incurred for reviews of registration statements and consultation on various accounting matters in support of the Company's financial statements.

**Tax Fees.** Total fees billed by RSM McGladrey, Inc. (an affiliate of McGladrey & Pullen, LLP) for tax related services for the fiscal years ended December 31, 2008 and 2007 were \$9,000 and \$10,500, respectively. These services include the preparation of federal and state income tax returns and other tax matters.

**All Other Fees.** Other than those fees described above, during the fiscal year ended December 31, 2008 and 2007 there were no other fees billed for services performed by McGladrey & Pullen, LLP or RSM McGladrey, Inc.

All of the fees described above were approved by Nanophase's Audit Committee.

**Audit Committee Pre-Approval Policies and Procedures.** Nanophase's audit committee pre-approves the audit and non-audit services performed by McGladrey & Pullen, LLP, our principal accountants, and RSM McGladrey, Inc. (an affiliate of McGladrey & Pullen, LLP) in order to assure that the provision of such services does not impair McGladrey & Pullen, LLP's independence. Unless a type of service to be provided by McGladrey & Pullen, LLP and RSM McGladrey, Inc. (an affiliate of McGladrey & Pullen, LLP) has received general pre-approval, it will require specific pre-approval by the Audit Committee. In addition, any proposed services exceeding pre-approval cost levels will require specific pre-approval by the Audit Committee.

The term of any pre-approval is 12 months from the date of pre-approval, unless the audit committee specifically provides for a different period. The Audit Committee will periodically revise the list of pre-approved services, based on subsequent determinations, and has delegated pre-approval authority to the Chairman of the audit committee. In the event the Chairman exercises such delegated authority, he shall report such pre-approval decisions to the audit committee at its next scheduled meeting. The Audit Committee does not delegate its responsibilities to pre-approve services performed by the independent auditor to management.

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**PART IV**

**Item 15. Exhibits, Financial Statement Schedules and Reports on Form 8-K**

(a) The following documents are filed as part of this Form 10-K:

1. The following financial statements of the Company, with the report of independent registered public accounting firm, are filed as part of this Form 10-K:

Report of McGladrey & Pullen, LLP, Independent Registered Public Accounting Firm

Balance Sheets as of December 31, 2008 and 2007

Statements of Operations for the Years Ended December 31, 2008 and 2007

Statements of Stockholders' Equity for the Years Ended December 31, 2008 and 2007

Statements of Cash Flows for the Years Ended December 31, 2008 and 2007

Notes to Financial Statements

2. The following exhibits are filed with this Form 10-K or incorporated by reference as set forth below.

**Exhibit  
Number**

- |         |  |
|---------|--|
| 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). |
| 3(i).1  | Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the 1997 10-K.  |
| 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.                                    |
| 3(ii).1 | Bylaws of the Company, incorporated by reference to Exhibit 3.2 to the 1997 10-K.  |
| 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).   |
| 4.2     | Form of Warrants, incorporated by reference to Exhibit 4.2 to the IPO S-1.   |
| 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.                                      |
| 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).                                       |
| 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.       |
| 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).   |
| 4.7     |  |

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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.

- 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  
Number**

- 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.
- 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.
- 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.
- 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).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 4.19 Amended and Restated Rights Agreement, dated as of January 30, 2009, by and between the Company and Mellon Investor Services LLC, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K/A filed February 5, 2009.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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  
Number**

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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).
- 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.
- 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).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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  
Number**

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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  
Number**

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- 10.51\* 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.
- 10.52\* Separation Agreement effective September 12, 2008, between the Company and Kevin J. Wenta, incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed September 15, 2008.
- 10.53\* 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.
- 10.54\* 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  
Number**

- 10.55\* 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.
- 10.56 Supply Agreement effective as of March 23, 2009, between the Company and Rohm and Haas Electronic Materials CMP Inc.
- 18 Letter Regarding a Change in Accounting Principle, dated March 24, 2009, by McGladrey & Pullen, LLP.
- 23.1 Consent of McGladrey & Pullen, LLP.
- 31.1 Certification of the Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
- 31.2 Certification of the Chief Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
- 32 Certification of the Chief Executive Officer and the 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.

**NANOPHASE TECHNOLOGIES CORPORATION**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and Stockholders

Nanophase Technologies Corporation

We have audited the consolidated balance sheets of Nanophase Technologies Corporation as of December 31, 2008 and 2007, and the related consolidated statements of operations, stockholders' equity and cash flows for each of the two years in the period ended December 31, 2008. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Nanophase Technologies Corporation as of December 31, 2008 and 2007, and the results of its operations and its cash flows for each of the two years in the period ended December 31, 2008, in conformity with U.S. generally accepted accounting principles.

As discussed in Note 2 to the financial statements, Nanophase Technologies Corporation has elected to change its method of accounting for patent costs as of January 1, 2007.

We were not engaged to examine management's assessment of the effectiveness of Nanophase Technologies Corporation's internal control over financial reporting as of December 31, 2008, included in the accompanying Item 9A(T) Controls and Procedures and, accordingly, we do not express an opinion thereon.

Schaumburg, Illinois

March 24, 2009

## NANOPHASE TECHNOLOGIES CORPORATION

## BALANCE SHEETS

	As of December 31,	
	2008	As Adjusted 2007
<b>ASSETS</b>		
<b>Current assets:</b>		
Cash and cash equivalents	\$ 723,069	\$ 563,075
Investments	6,908,888	16,145,844
Trade accounts receivable, less allowance for doubtful accounts of \$9,000 and \$13,000 on December 31, 2008 and 2007, respectively	1,092,125	1,403,206
Other receivables	7,749	
Inventories, net	1,154,207	1,085,364
Prepaid expenses and other current assets	482,452	298,464
<b>Total current assets</b>	<b>10,368,490</b>	<b>19,495,953</b>
Investments	5,340,000	
Equipment and leasehold improvements, net	6,651,842	7,409,666
Other assets, net	39,765	79,285
	<b>\$ 22,400,097</b>	<b>\$ 26,984,904</b>
<b>LIABILITIES AND STOCKHOLDERS EQUITY</b>		
<b>Current liabilities:</b>		
Current portion of capital lease obligations	\$ 22,211	\$ 43,110
Current portion of deferred other revenue	74,243	127,273
Accounts payable	356,853	238,295
Accrued expenses	1,493,262	1,584,656
Accrued severance	541,014	
<b>Total current liabilities</b>	<b>2,487,583</b>	<b>1,993,334</b>
Long-term debt, less current maturities and unamortized debt discount	1,570,346	1,512,507
Long-term portion of capital lease obligations	9,219	31,430
Deferred other revenue, less current portion		74,243
	<b>1,579,565</b>	<b>1,618,180</b>
<b>Commitments and contingencies</b>		
<b>Stockholders equity:</b>		
Preferred stock, \$.01 par value; 24,088 authorized and no shares issued and outstanding		
Common stock, \$.01 par value; 30,000,000 shares authorized; 21,188,912 and 21,088,068 shares issued and outstanding on December 31, 2008 and December 31, 2007, respectively	211,889	210,881
Additional paid-in capital	91,597,529	90,201,131
Accumulated deficit	(73,476,469)	(67,038,622)
<b>Total stockholders equity</b>	<b>18,332,949</b>	<b>23,373,390</b>
	<b>\$ 22,400,097</b>	<b>\$ 26,984,904</b>

(See accompanying Notes to Financial Statements)



**NANOPHASE TECHNOLOGIES CORPORATION**

**STATEMENTS OF OPERATIONS**

	<b>Years ended December 31,</b>	
	<b>2008</b>	<b>As Adjusted 2007</b>
<b>Revenue:</b>		
Product revenue	\$ 9,744,759	\$ 11,766,565
Other revenue	469,058	442,543
 Total revenue	 10,213,817	 12,209,108
<b>Operating expense:</b>		
Cost of revenue	7,501,468	9,032,187
 Gross Profit	 2,712,349	 3,176,921
Research and development expense	1,764,284	1,773,565
Selling, general and administrative expense	5,390,771	5,560,960
Severance charges	1,578,859	
 Loss from operations	 (6,021,565)	 (4,157,604)
Interest income	383,083	661,512
Interest expense	(130,992)	(154,515)
Impairment of investments	(660,000)	
Other, net	(8,373)	(73,660)
 Loss before provision for income taxes	 (6,437,847)	 (3,724,267)
Provision for income taxes		
 Net loss	 \$ (6,437,847)	 \$ (3,724,267)
 Net loss net per share-basic and diluted	 \$ (0.30)	 \$ (0.19)
 Weighted average number of basic and diluted common shares outstanding	 21,144,336	 20,038,868

**(See accompanying Notes to Financial Statements)**

**NANOPHASE TECHNOLOGIES CORPORATION**

**STATEMENTS OF STOCKHOLDERS EQUITY**

Description	Preferred Stock		Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total
	Shares	Amount	Shares	Amount			
Balance on January 1, 2007, as originally reported		\$	18,995,581	\$ 189,956	\$ 78,380,962	\$ (62,745,471)	\$ 15,825,447
Cumulative effect of change in accounting method						(568,884)	(568,884)
Balance on January 1, 2007, as adjusted		\$	18,995,581	\$ 189,956	\$ 78,380,962	\$ (63,314,355)	\$ 15,256,563
Exercise of stock options			159,731	1,597	695,138		696,735
Common stock issuances, net of transaction cost of \$676,657			1,923,244	19,233	10,694,376		10,713,609
Stock-based compensation					429,405		429,405
Vesting of restricted common stock			9,512	95	1,250		1,345
Net loss for the year ended December 31, 2007, as adjusted						(3,724,267)	(3,724,267)
Balance on December 31, 2007, as adjusted		\$	21,088,068	\$ 210,881	\$ 90,201,131	\$ (67,038,622)	\$ 23,373,390
Exercise of stock options			16,667	166	30,251		30,417
Common stock issuances			84,177	842	179,158		180,000
Stock-based compensation					1,186,989		1,186,989
Net loss for the year ended December 31, 2008						(6,437,847)	(6,437,847)
Balance on December 31, 2008		\$	21,188,912	\$ 211,889	\$ 91,597,529	\$ (73,476,469)	\$ 18,332,949

(See accompanying Notes to Financial Statements)

## NANOPHASE TECHNOLOGIES CORPORATION

## STATEMENTS OF CASH FLOWS

	Years ended December 31,	
	2008	As Adjusted 2007
<b>Operating activities:</b>		
Net loss	\$ (6,437,847)	\$ (3,724,267)
Adjustments to reconcile net loss to cash used in operating activities:		
Depreciation and amortization	1,287,987	1,383,224
Amortization of debt discount	57,840	128,799
Amortization of deferred revenue	(127,273)	(127,272)
Stock compensation expense	774,204	574,750
Charges for accelerated vesting of stock options	592,785	
Allowance for excess inventory quantities		26,179
Loss on disposal of equipment	11,792	75,152
Impairment on investments	660,000	
Abandonment of trademarks	37,211	
Changes in assets and liabilities related to operations:		
Trade accounts receivable	311,081	56,185
Other receivable	(7,749)	
Inventories	(68,843)	(188,320)
Prepaid expenses and other assets	(183,988)	235,943
Accounts payable	88,250	(184,817)
Accrued expenses	443,767	(64,442)
Net cash used in operating activities	(2,560,783)	(1,808,886)
<b>Investing activities:</b>		
Acquisition of equipment and leasehold improvements	(499,967)	(1,226,736)
Proceeds from disposal of equipment	1,800	10,800
Payment of accounts payable incurred for the purchase of equipment and leasehold improvements	(5,318)	(60,900)
Purchases of investments	(232,213,181)	(136,137,489)
Sales of investments	235,450,137	128,426,438
Net cash provided by (used in) investing activities	2,733,471	(8,987,887)
<b>Financing activities:</b>		
Principal payment on debt obligations, including capital leases	(43,111)	(38,883)
Proceeds from sale of common stock and exercise of stock options, net	30,417	11,266,344
Net cash (used in) provided by financing activities	(12,694)	11,227,461
Increase in cash and cash equivalents	159,994	430,688
Cash and cash equivalents at beginning of period	563,075	132,387
Cash and cash equivalents at end of period	\$ 723,069	\$ 563,075
<b>Supplemental cash flow information:</b>		
Interest paid	\$ 76,920	\$ 8,866
<b>Supplemental non-cash investing and financing activities:</b>		
Accounts payable incurred for the purchase of equipment and leasehold improvements	\$ 35,626	\$ 5,318



Capital lease obligations incurred in the purchase of equipment	\$	\$	29,900
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(See accompanying Notes to Financial Statements)

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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS**

**(1) 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, 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 and other customers 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.

**(2) Summary of Significant Accounting Policies**

**Change in Accounting Method**

The Company has decided to change our method of accounting for patent costs during the fourth quarter of 2008. The Company will now expense patent costs instead of capitalizing them.

The Company's prior practice was to begin the legal process seeking patents, then record all associated costs as intangible assets. If a patent was granted, the costs would continue to be capitalized and amortized over the estimated economic life of the patents. If a patent was rejected or abandoned, the unamortized cost would then be expensed.

The Company believes that it no longer has the ability to reasonably predict whether a patent will be granted, when it will be granted or whether all the claims in a granted patent ultimately will be upheld. Therefore, management believes that it is preferable to expense all patent costs incurred as period costs. The expensing of patent costs as a period cost will more closely align these expenses with when the Company is recognizing the related revenue from the patented technology.

The change in accounting method to expense patent costs was completed in accordance with Statement of Financial Accounting Standards (SFAS) No. 154 *Accounting Changes and Error Corrections*. The Company applied this change in accounting principal by retrospectively restating prior year financial statements.

## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

The effect of the change in accounting method on operating results for the years ended December 31, 2008 and 2007 was as follows:

	2008		
	Prior to Accounting Change	As Reported	Effect of change
<b>Statements of operations</b>			
Patent expense	\$	\$ 76,992	\$ (76,992)
Amortization expense	38,041	1,637	36,404
Loss from operations	(6,062,153)	(6,021,565)	40,588
Net loss	(6,478,435)	(6,437,847)	40,588
Basic and diluted loss per share	(0.31)	(0.30)	0.01

	2007		
	As Originally Reported	As Adjusted for Accounting Change	Effect of change
<b>Statements of operations</b>			
Patent expense	\$	\$ 171,135	\$ (171,135)
Amortization expense	40,417	2,379	38,038
Loss from operations	(4,024,507)	(4,157,604)	(133,097)
Net loss	(3,591,170)	(3,724,267)	(133,097)
Basic and diluted loss per share	(0.18)	(0.19)	(0.01)

The effect of the change in accounting method on the balance sheets on December 31, 2008 and 2007 was as follows:

	2008		
	Prior to Accounting Change	As Reported	Effect of Change
<b>Other assets:</b>			
Patents	\$ 587,486	\$	\$ (587,486)
Trademarks	28,382	28,382	
Other	11,383	11,383	
Accumulated deficit	(72,888,983)	(73,476,469)	(587,486)
<b>2007</b>			
	As Adjusted for Accounting Change		
	As Originally Reported	Accounting Change	Effect of Change
<b>Other assets:</b>			
Patents	\$ 701,981	\$	\$ (701,981)
Trademarks	67,232	67,232	
Other	12,053	12,053	
Accumulated deficit	(66,336,641)	(67,038,622)	(701,981)

## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

The effect of the change in accounting method on the statements of cash flows for the years ended December 31, 2008 and 2007 was as follows:

	Prior to Accounting Change	2008	
		As Reported	Effect of Change
Net loss	\$ (6,478,435)	\$ (6,437,847)	\$ (40,588)
Depreciation and Amortization	1,324,391	1,287,987	(36,404)
Net cash used in operating activities	(2,483,791)	(2,560,783)	(76,992)
Acquisition of patents	(76,992)		76,992
Net cash provided by investing activities	2,656,479	2,733,471	76,992
Increase in cash and cash equivalents	159,994	159,994	
Cash and cash equivalents, January 1, 2008	563,075	563,075	
Cash and cash equivalents, December 31, 2008	\$ 723,069	\$ 723,069	\$
	As Originally Reported	2007	
		As Adjusted for Accounting Change	Effect of Change
Net loss	\$ (3,591,170)	\$ (3,724,267)	\$ (133,097)
Depreciation and Amortization	1,421,262	1,383,224	(38,038)
Net cash used in operating activities	(1,637,751)	(1,808,886)	(171,135)
Acquisition of patents	(171,135)		171,135
Net cash used in investing activities	(9,159,022)	(8,987,887)	171,135
Increase in cash and cash equivalents	430,688	430,688	
Cash and cash equivalents, January 1, 2007	132,387	132,387	
Cash and cash equivalents, December 31, 2007	\$ 563,075	\$ 563,075	\$

As a result of the accounting change, accumulated deficit as of January 1, 2007, increased from \$62,745,471, as originally reported using the capitalized cost method, to \$63,314,355 using the expense method. The effect of the change in accounting method was recorded in the fourth quarter of 2008. The Company determined that the interim financial information previously reported would not differ materially from the adjusted results for periods in the years ended December 31, 2008 and 2007.

## Use of Estimates

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The preparation of financial statements requires the Company to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**Cash and Cash Equivalents**

Cash and cash equivalents primarily consist of demand deposits. The Company has employed corporate sweep accounts, when cost-effective in order to maximize interest income earned with its operating funds.

**Investments and Risks and Uncertainties**

Investments are classified by the Company at the time of purchase for appropriate designation and are reevaluated as of each balance sheet date. The Company's policy is to classify United States treasury bills and certificates of deposit as investments. These investments are classified as available-for-sale and held-to maturity, respectively. Based on the nature of available-for-sale investments, cost approximates fair value. Held-to maturity securities are stated at amortized cost and are adjusted to maturity for the amortization of premiums and accretion of discounts. Such adjustments for amortization and accretion are included in interest income. The Company has also made investments in auction rate securities (ARS). These ARS holdings 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 (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. However, these failed auctions have caused the Company to change the level of inputs to determine their fair values. The values of the Company's ARSs were estimated using a discounted cash flow model of analysis. Since these inputs were not observable they are classified as level 3 inputs (see Note 3). As a result, for the period ending December 31, 2008, the Company recognized an other than temporary loss on the ARSs in the amount of \$660,000 which was reflected in the income statement. The Company's valuation models assume an average maturity of the ARSs in excess of one year; therefore, the Company has classified these securities as long-term on the December 31, 2008 balance sheet.

The Company's investments are held by its investment bank who is a member of all major stock exchanges and the Securities Investor Protection Corporation (SIPC). Securities and cash held in custody by the Company's investment bank are afforded complete protection for the Company's investment positions through SIPC and a commercial insurer (commonly known as Excess SIPC coverage), however, it does not protect against losses from the rise and fall in market value of investments.

Due to the level of liquidity risk associated with such investments and the level of uncertainty related to changes in the value of such investments, it is at least reasonably possible that changes in risks in the near term would materially affect the amounts reported in the financial statements and the classifications of these investments as short-term.

**Trade Accounts Receivable**

Trade accounts receivable are carried at original invoice amount less an estimate made for doubtful receivables based on a review of all outstanding amounts on a monthly basis. Management determines the allowance for doubtful accounts by identifying troubled accounts and by using historical experience applied to an aging of accounts. Trade accounts receivable are written off when deemed uncollectible. Recoveries of trade accounts receivable previously written off are recorded when received.

The Company's typical credit terms are thirty days from shipment and invoicing.

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**NANOPHASE TECHNOLOGIES CORPORATION**
**NOTES TO FINANCIAL STATEMENTS (Continued)****Inventories**

Inventories are stated at the lower of cost, maintained on a first in, first out basis or market. The Company has recorded allowances to reduce inventory relating to excess quantities of certain materials. Write-downs of inventories establish a new cost basis, which is not increased for future increases in market value of inventories or changes in estimated excess quantities.

**Equipment and Leasehold Improvements**

Equipment is stated at cost and is being depreciated over its estimated useful life (3-20 years) using the straight-line method. Leasehold improvements are stated at cost and are being amortized using the straight-line method over the shorter of the useful life of the asset or the term of the lease (3-16 years). Depreciation expense for leased assets is included with depreciation expense for owned assets. From time to time the company has self-constructed assets. These assets are stated at cost plus the capitalization of labor and have an estimated useful life (7-10 years) using the straight-line method.

**Long Lived Assets**

The Company follows the provisions of SFAS 144, *Accounting for the Impairment or Disposal of Long-Lived Assets*. Reviews are performed whenever events or changes in circumstances indicate that the carrying amount of assets may not be recoverable or that the useful life is shorter than originally estimated. The Company assesses the recoverability of its assets by comparing the projected undiscounted net cash flows associated with the related asset or group of assets over their remaining lives against their respective carrying amounts. Impairment, if any, is based on the excess of the carrying amount over the fair value of those assets. If assets are determined to be recoverable, but the useful lives are shorter than originally estimated, the net book value of the assets is depreciated over the newly determined remaining useful lives.

**Asset Retirement Obligations**

In connection with its leased facilities, the Company is required to remove certain leasehold improvements upon termination of its occupancy. Effective January 1, 2003, the Company follows the provisions of SFAS 143, *Accounting for Asset Retirement Obligations*, under which the Company recognizes a liability for the fair value of its asset retirement obligations. The fair value of that liability is measured based on an expected cash flow approach and accretion expense is recognized each period to recognize increases to the fair value of the liability due to the passage of time. Increases to the fair value of the liability, except for accretion, are added to the carrying value of the long-lived asset. Those increases are then reported in amortization expense over the estimated useful life of the long-lived asset.

Activity in the asset retirement obligation account for the years ended December 31, is as follows:

	2008	2007
Balance, beginning	\$ 122,680	\$ 116,495
Accretion of liability due to passage of time	3,685	3,345
Amortization of asset due to passage of time	2,840	2,840
Balance, ending	\$ 129,205	\$ 122,680

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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**Fair Value of Financial Instruments**

The Company SFAS 157, *Fair Value Measurements* effective January 1, 2008. SFAS 157 defines fair value, establishes a framework for measuring fair value and expands disclosure of fair value measurements. The adoption of SFAS 157 did not have a material effect on the financial statements. In accordance with FASB Staff Position (FSP) 157-2, effective date of FASB Statement No. 157, the Company is not required to apply SFAS 157 for non financial assets and non financial liabilities until January 1, 2009. The Company has not yet assessed the impact of SFAS 157 on non financial assets and non financial liabilities. SFAS 157 applies to all assets and liabilities that are measured and reported on a fair value basis (see Note 3).

SFAS 159, *The Fair Value Option for Financial Assets and Financial Liabilities*, was effective for the year ended December 31, 2008. SFAS 159 allows the Company to make an election to adjust the carrying value of financial instruments not normally measured on a fair value basis to fair value. The Company did not elect to adopt SFAS 159.

The Company's financial instruments include investments, accounts receivable, accounts payable, accrued liabilities and long-term debt. The fair values of all financial instruments were not materially different from their carrying values.

**Product Revenue**

Product revenue consists of sales of product that are recognized when realized and earned. This occurs when persuasive evidence of an arrangement exists, title transfers via shipment of products or when delivery has occurred, the price is fixed or determinable and collectability is reasonably assured.

**Other Revenue**

In connection with its promissory note to BYK-Chemie (see Note 7), the Company recorded \$350,000 of deferred other revenue. The note requires that the Company give BYK-Chemie first preference in use of the new equipment commissioned on November 1, 2006 and accordingly, has begun to recognize deferred revenue under this note and the Company has also agreed to provide experimental product made using this equipment. As a result of a lack of further specificity with regards to the equipment use obligations, the Company intends to recognize the deferred revenue ratably, on a straight-line basis over a period beginning with the commissioned date on November 1, 2006 and ending on July 30, 2009, the expected date of the Company's final payment under the note. For the years ended December 31, 2008 and 2007 the Company has recognized approximately \$127,000 of deferred other revenue, respectively.

Other revenue consists of revenue from a technology license and deferred other revenue in connection with the Company's promissory note to BYK-Chemie. Technology license fees are recognized when earned pursuant to the agreed upon contractual arrangement, when performance obligations are satisfied, the amount is fixed or determinable, and collectability is reasonably assured. The Company intends to recognize the deferred revenue ratably, on a straight-line basis over a period beginning with the commissioned date on November 1, 2006 and ending on July 30, 2009, the expected date of the Company's final payment under the note.

In December 1997, the Company entered into a license agreement whereby the Company granted a royalty-bearing exclusive right and license, as defined, to purchase, make, use and sell nanocrystalline materials in designated parts of Asia to C. I. Kasei, a division of Itochu Corporation (CIK). Under this agreement, the Company will also earn royalties on net sales of manufactured products containing nanocrystalline materials. The



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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

agreement also provided for minimum sales targets and minimum royalty payments to maintain exclusivity. The agreement expires on March 31, 2013 unless earlier terminated as provided therein. The Company recorded royalty revenues, classified as Other Revenue on the Statements of Operations, under this agreement of \$300,000 for the years ended December 31, 2008 and 2007, respectively.

Shipping and handling costs are included in other revenue when products are shipped and invoiced to the customer. The Company includes the related cost of shipping and handling in cost of goods sold.

**Research and Development Expenses**

Research and development expenses are recognized as expense when incurred.

**Income Taxes**

The Company accounts for income taxes using the liability method. As such, deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Deferred tax assets and liabilities are calculated using the enacted tax rates and laws that are expected to be in effect when the anticipated reversal of these differences is scheduled to occur. Deferred tax assets are reduced by a valuation allowance when, in the opinion of management, it is more likely than not that some portion or all of the deferred tax assets will not be realized.

In July 2006, the FASB issued Interpretation No. 48 (FIN 48), Accounting for Uncertainty in Income Taxes, an interpretation of SFAS 109. FIN 48 clarifies the accounting for income taxes by prescribing the minimum recognition threshold a tax position is required to meet before being recognized in the financial statements. FIN 48 also provides guidance on derecognition, measurement, classification, interest and penalties, accounting in interim periods, disclosure and transition. FIN 48 applies to all tax positions related to income taxes. On January 1, 2007, the Company adopted the provisions of FIN 48. The Company has not recorded a reserve for any tax positions for which the ultimate deductibility is highly certain but for which there is uncertainty about the timing of such deductibility. The Company files tax returns in all appropriate jurisdictions, which include a federal tax return and Illinois state tax return. Open tax years for both jurisdictions are 2005 to 2007, which statutes expire in 2009 to 2011, respectively. When and if applicable, potential interest and penalty costs are accrued as incurred, with expenses recognized in selling, general and administrative expenses in the statements of operations. As of December 31, 2008 and 2007, the Company has no liability for unrecognized tax benefits.

**Earnings Per Share**

Net loss per common share is computed based upon the weighted average number of common shares outstanding. Common equivalent shares of 179,654 for 2007 are not included in the per share calculations because the effect of their inclusion would be anti-dilutive. Included in common equivalent shares are in-the-money stock options and unvested restricted stock grants. No equivalent shares are included in 2008 because stock options are out-of-the money and restricted grants have all vested or expired.

**Recently Issued Accounting Standards**

In December 2007, the FASB issued SFAS 141(R), *Business Combinations*. This Statement provides greater consistency in the accounting and financial reporting for business combinations. SFAS 141(R) establishes new disclosure requirements and, among other things, requires the acquiring entity in a business combination to record contingent consideration payable, to expense transaction costs, and to recognize all assets acquired and liabilities assumed at acquisition-date fair value. This standard is effective for the beginning of the Company's first fiscal year beginning after December 15, 2008. SFAS 141(R) will have a significant impact on the

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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

accounting for future business combinations after the effective date and will impact financial statements both on the acquisition date and subsequent periods. The Company does not believe that adoption of SFAS 141(R) will have a material effect on its financial statements.

In December 2007, the FASB issued SFAS 160, *Noncontrolling Interests in Consolidated Financial Statements*. SFAS 160 amends Accounting Research Bulletin No. 51, *Consolidated Financial Statements*, to establish accounting and reporting standards for the minority or noncontrolling interests in a subsidiary or variable interest entity and for the deconsolidation of a subsidiary or variable interest entity. Minority interests will be recharacterized as noncontrolling interests and classified as a component of equity. It also establishes a single method of accounting for changes in a parent's ownership interest in a subsidiary and requires expanded disclosures. SFAS 160 is effective for the beginning of the Company's first fiscal year beginning after December 15, 2008, and requires retroactive adoption of the presentation and disclosure requirements for existing minority interests. The Company does not expect the adoption of this standard to have a material impact on its financial position or results of operations.

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.

**(3) Financial Instruments**

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.

## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

As of December 31, 2008, the fair values of our financial assets are approximately categorized as follows:

	Total	Level 1	Level 2	Level 3
<b>Financial Assets</b>				
Auction rate securities(a)	\$ 5,340,000	\$	\$	\$ 5,340,000
Available-for-sale securities(b)	6,880,000	6,880,000		
Held-to-maturity investments(c)	30,000	30,000		
	\$ 12,250,000	\$ 6,910,000	\$	\$ 5,340,000

(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 resulted in an other than temporary impairment loss on the ARS's in the amount of \$660,000 which was reflected in the statement of operations.

(b) Based on the price of United States treasury bills.

(c) Based on stated bank rates.

There are no financial liabilities adjusted to fair value on December 31, 2008.

In February 2009, the Company hired an independent third party valuation firm to estimate the fair value of the Company's ARS's using a discounted cash flow analysis and an assessment of secondary markets. Based on this estimation and other factors, the Company concluded that an other than temporary impairment loss had occurred in the amount of \$660,000. The Company will continue to monitor the credit worthiness of the companies underwriting these securities and make any adjustments it deems necessary to reflect the fair value of these securities.

As of December 31, 2008, a reconciliation of assets measured at fair value on a recurring basis using significant unobservable inputs (Level 3) are as follows:

	Fair Value Measurements Using Significant Unobservable Inputs (Level 3) Auction Rate Securities
Beginning balance, January 1, 2008	\$
Transfers into Level 3	6,000,000
Total losses unrealized Included in statement of operations	(660,000)
Ending balance, December 31, 2008	\$ 5,340,000

The amount of total losses for 2008 included in statement of operations attributable to the change in unrealized losses relating to assets still held at the reporting date

\$ 660,000



**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**(4) Investments**

Investments on December 31, 2008 and 2007 were comprised of auction rate securities, certificates of deposit and a money market fund. Included in investments is \$30,000 on December 31, 2008 and 2007, respectively, 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 auction rate securities and certificates of deposit have maturity days of less than 30 days. The Company's investments on December 31, 2008 and 2007 were as follows:

	As of December 31,	
	2008	2007
United States treasury bills	\$ 6,875,982	\$ 14,175,000
Auction rate securities		14,175,000
Money market fund		1,898,262
Certificates of deposit	30,000	30,000
Accrued interest	2,906	42,582
	6,908,888	16,145,844
Auction rate securities	5,340,000	
	\$ 12,248,888	\$ 16,145,844

As of March 4, 2009, the Company's remaining investments in auction rate securities totaled \$5.34 million. These ARS holdings 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 (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. However, these failed auctions have caused the Company to change the level of inputs to determine their fair values. The values of the Company's ARS were estimated using a discounted cash flow model of analysis. Since these inputs were not observable they are classified as level 3 inputs (see Note 3). As a result, for the period ending December 31, 2008, the Company recognized an other than temporary impairment loss on the ARS in the amount of \$660,000 which was reflected in the statement of operations. The Company's valuation models assume an average maturity of the ARS in excess of one year; therefore, the Company has classified these securities as long-term on the December 31, 2008 balance sheet.

**(5) Inventories**

Inventories consist of the following:

	As of December 31,	
	2008	2007
Raw materials	\$ 183,150	\$ 180,293
Finished goods	1,013,704	1,274,604
	1,196,854	1,454,897
Allowance for excess quantities	(42,647)	(369,533)
	\$ 1,154,207	\$ 1,085,364



## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

**(6) Equipment and Leasehold Improvements**

Equipment and leasehold improvements consist of the following:

	As of December 31,	
	2008	2007
Machinery and equipment	\$ 12,911,175	\$ 11,859,120
Office equipment	637,112	545,068
Office furniture	78,242	78,242
Leasehold improvements	4,681,315	4,659,459
Construction in progress	38,170	695,420
	18,346,014	17,837,309
Less: Accumulated depreciation and amortization	(11,694,172)	(10,427,643)
	\$ 6,651,842	\$ 7,409,666

Depreciation expense was \$1,279,826 and \$1,374,660, for the years ended December 31, 2008 and 2007, respectively.

**(7) Long-Term Debt**

In November 2005, the Company executed a promissory note, held by BYK-Chemie (a U.S. subsidiary of Altana Chemie AG which owns approximately 6% of the Company's outstanding common stock) in the amount of \$1,597,420 for the purchase and installation of additional dispersion capacity and an additional NanoArc<sup>®</sup> synthesis reactor at the Company's Romeoville, Illinois facility. The note requires that the Company give BYK-Chemie first preference in use of the new equipment commissioned on November 1, 2006 under this note, and that the Company agrees to provide experimental product made using this equipment. In addition, the Company also capitalized approximately \$74,000 in interest related to this note. The rate of interest in the note will float at 1% over LIBOR, measured on a quarterly average. Interest will not begin to accrue until one year after the commissioning of the specified equipment and principal will be repaid in three equal payments during the first three quarters of 2009. Management has determined that the required interest payments, including a flexible interest free period of more than a year, are substantially lower than the Company would be required to pay in a more traditionally underwritten equipment note. As such, management's imputation of interest, in accordance with the provisions of APB No. 21, Interest on Receivables and Payables, at 9% over the entire life of the note, its determination of a market interest rate, resulted in the Company recording a debt discount of \$350,000, having an unamortized balance of \$27,074 and \$84,913 on December 31, 2008 and 2007, respectively. Accrued interest on note was \$14,056 on December 31, 2008. There was no accrued interest recorded for the period ending December 31, 2007. Management further determined that the debt discount of \$350,000 recorded at the inception of the loan was attributable to deferred other revenue relating to the issuance of right of first preference on the new equipment being commissioned and the Company's commitment to provide experimental product.

**(8) Lease Commitments**

The Company leases its operating facilities under operating leases. On October 18, 2005 Nanophase entered into a Lease Amendment amending its current lease for its facility in Romeoville, Illinois, which, among other things, extended the term of such lease through December 31, 2015 (with the option to extend the term for two additional five year periods) and granted Nanophase an option to purchase such facility in certain instances. The current monthly rent on this lease amounts to \$26,500. Nanophase leases its Burr Ridge facility under an

**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

agreement whose initial term expired in September 1999. The Company exercised its option to extend the lease for five additional one-year terms, the last of which expired in September 2004. The Company renewed its Burr Ridge facility lease in September 2004 (with the option to extend the term for three additional one-year periods). The initial term of the new lease expired in September 2007. The Company exercised its option to extend the lease for one year, which expires in September 2009. The current monthly rent on this lease amounts to \$11,515. At this time, the Company intends to extend this lease for an additional one year term.

The following is a schedule of future minimum lease payments as required under the above operating leases:

<b>Year ending December 31:</b>	
2009	\$ 482,233
2010	366,400
2011	331,200
2012	338,400
2013	344,400
Thereafter	4,717,735
<b>Total minimum payments required:</b>	<b>\$ 6,580,368</b>

Rent expense, including real estate taxes, under these leases amounted to \$633,925 and \$615,035, for the years ended December 31, 2008 and 2007, respectively.

On December 31, 2008 and 2007, equipment under capital leases had a cost of \$137,552 and \$137,552, respectively, with accumulated depreciation of \$41,802 and \$24,867, respectively. The Company had two capital lease(s) as of December 31, 2008 and 2007, respectively.

**(9) Accrued Expenses**

Accrued expenses consist of the following:

	<b>As of December 31,</b>	
	<b>2008</b>	<b>2007</b>
Accrued payroll and related expenses	\$ 476,163	\$ 623,792
Accrued professional services	165,774	139,746
Accrued rent	592,562	564,921
Other	258,763	256,197
	<b>\$ 1,493,262</b>	<b>\$ 1,584,656</b>

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 in severance charges. Included in these charges were salaries and benefits, accelerated vesting of stock options (non-cash) and other expenses. On December 31, 2008, \$541,014 remained in severance accrual on the Company's balance sheet.



## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

**(10) Income Taxes**

The Company has no income tax provision, current or deferred, relating to U.S. federal, state or local income taxes.

A reconciliation of income tax expense to the amount computed by applying the Federal income tax rate to loss before provision for income taxes as of December 31, 2008 and 2007 is as follows:

	2008	As Adjusted 2007
Income tax credit at statutory rates	\$ (2,188,868)	\$ (1,266,251)
Nondeductible expenses	6,579	8,571
State income tax, net of federal benefits	(305,926)	(176,973)
Other		(8,347)
Increase in valuation allowance	2,488,217	1,443,000
	\$	\$

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred income taxes consist of the following:

	As of December 31,	
	2008	As Adjusted 2007
Deferred tax assets:		
Net operating loss carryforwards	\$ 30,161,000	\$ 28,424,000
Inventory and other allowances	30,000	157,000
Excess (tax) book depreciation	(111,000)	(93,000)
Excess (tax) book amortization	43,000	41,000
Investments	257,000	
Patents and trademarks	83,000	
Other accrued costs	280,000	292,000
Total deferred tax assets	30,743,000	28,821,000
Less: Valuation allowance	(30,743,000)	(28,821,000)
Deferred income taxes	\$	\$

The valuation allowance increased approximately \$2,488,217 and \$1,443,000 for the years ended December 31, 2008 and 2007, respectively (net of \$566,000 and \$258,000, respectively for expiring net operating loss carryforwards) due principally to the increase in the net operating loss carryforward and uncertainty as to whether future taxable income will be generated prior to the expiration of the carryforward period. Under the Internal Revenue Code, certain ownership changes, including the prior issuance of preferred stock and the Company's public offering of common stock, may subject the Company to annual limitations on the utilization of its net operating loss carryforward. As of December 31, 2008, the amounts subject to limitations has not yet been determined.

The Company has net operating loss carryforwards for tax purposes of approximately \$77,335,000 on December 31, 2008, which expire between 2009 and 2028.



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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

**(11) Capital Stock**

In October 1998, pursuant to a Stockholder Rights Agreement between Nanophase and LaSalle National Association, as Rights Agent, the Company declared a dividend of one Preferred Stock Purchase Right (a "Right") for each outstanding share of Company common stock on November 10, 1998 and each share of common stock issued by the Company after such date. The Rights are not presently exercisable. Each Right entitles the holder, upon the occurrence of certain specified events, to purchase from the Company one ten-thousandth of a share of the Company's Series A Junior Participating Preferred Stock at a purchase price of \$25 per one-ten thousandth of a share (the "Purchase Price"). The Rights further provide that each Right will entitle the holder, upon the occurrence of certain specified events, to purchase from the Company, common stock having a value of twice the Purchase Price and, upon the occurrence of certain other specified events, to purchase from another entity into which the Company is merged or which acquires 50% or more of the Company's assets or earnings power, common stock of such other entity having a value of twice the Purchase Price. In general, the Rights may be redeemed by the Company at a price of \$0.01 per Right. The Rights expire on October 28, 2011. On September 5, 2003, in anticipation of the September 8, 2003 private placement to Grace Brothers Ltd., the Company amended its existing Stockholder Rights Agreement to revise the beneficial ownership threshold at which a person or group of persons becomes an "acquiring person" and triggers certain provisions under the Stockholder Rights Agreement. As revised, a person or group would become an "acquiring person" if that person or group becomes the beneficial owner of 35% or more of the outstanding shares of the Company's stock. Prior to this amendment, the beneficial ownership threshold was 25%.

On January 30, 2009, the Company entered into an Amended and Restated Rights Agreement between the Company and Mellon Investor Services LLC, which amends and restates in its entirety the original Rights Agreement, dated as of October 28, 1998. The original Rights Agreement was amended and restated to appoint Mellon Investor Services LLC as the successor Rights Agent to LaSalle National Bank and to make certain conforming changes. No other material changes were made.

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.

As of December 31, 2008 and 2007, the Company has 24,088 authorized shares of preferred stock, of which 2,500 shares have been designated as Series A Junior Participating Preferred Stock and reserved for issuance in connection with the Rights described above. Shares of Series A Junior Participating Preferred Stock are nonredeemable and subordinate to any other series of the Company's preferred stock, unless otherwise provided for in the terms of the preferred stock; has a preferential dividend in an amount equal to 10,000 times any dividend declared on each share of common stock; has 10,000 votes per share, voting together with the Company's common stock; and in the event of liquidation, entitles its holder to receive a preferred liquidation payment equal to 10,000 times the payment made per share of common stock. In addition, as of December 31, 2008, 2,256,626 authorized but unissued shares of common stock have been reserved for future issuance upon exercise of stock options.

**(12) Stock Options and Stock Grants**

The Company has entered into stock option agreements with certain officers, employees, directors and three members of the Company's former Advisory Board. The stock options generally expire ten years from the date of grant. Of the total number of exercisable options, 191,400 of the outstanding options vest over a five-year period and 946,899 vest over a three-year period from their respective grant dates.

**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

Employees Stock Options

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 \$627,279 and \$481,431 for the years ended December 31, 2008 and 2007, respectively. The Company also recognized stock compensation expense related to accelerated vesting of stock options pursuant to severance agreements in the amount of \$592,785 on December 31, 2008.

As of December 31, 2008, there was approximately \$565,000 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 4.1 years.

Fair Value and Assumptions Used to Calculate Fair Value under SFAS 123 (R)

The following table illustrates the various assumptions used to calculate the Black-Scholes option pricing model for all years presented:

	Years Ended December 31,	
	2008	2007
Weighted-average risk-free interest rates:	3.43%	4.16%
Dividend yield:	0.00%	0.00%
Weighted-average expected life of the option:	7 years	7 years
Weighted-average expected stock price volatility:	75.07%	78.31%
Weighted-average fair value of the options granted:	\$ 2.22	\$ 3.68

The Company uses the Black-Scholes option pricing model to determine the fair value of stock based compensation. The Black-Scholes model requires the Company to make several assumptions, including the estimated length of time employees will retain their vested stock options before exercising them (expected term), the estimated volatility of the Company's common stock price over the expected term and estimated forfeitures. Expected price volatility of the fiscal 2008 and 2007 grants is based on the daily market rate changes of the Company's stock going back to January 1, 1998. The shares granted in fiscal 2008 and 2007 had a vesting period of either three or five years and a contractual life of 10 years. Forfeitures were estimated at 4.6% and 5.5% for the years ended December 31, 2008 and 2007, respectively, based on the Company's historical experience. The Black-Scholes model also requires a risk free interest rate, which is based on the U.S. Treasury yield curve in effect at the time of the grant, and the dividend yield on the Company's common stock, which is assumed to be zero since the Company does not pay dividends and has no current plans to do so in the future. Changes in these assumptions can materially affect the estimate of fair value of stock based compensation and consequently, the related expense recognized on the condensed consolidated statement of operations. The Company recognizes stock based compensation expense on a straight-line basis.

## NANOPHASE TECHNOLOGIES CORPORATION

## NOTES TO FINANCIAL STATEMENTS (Continued)

The following table summarizes the Company's option activity for Nanophase Technologies Corporation employees and directors during the years ended December 31, 2008 and 2007:

Options	Shares	Weighted Average Exercise Price per Share	Weighted Average Remaining Contractual Term (years)	Aggregate Intrinsic Value
Outstanding on January 1, 2007	1,784,183	\$ 6.14		
Granted	320,000	\$ 4.95		
Exercised	(159,731)	\$ 4.48		
Forfeited or expired	(272,238)	\$ 7.54		
Outstanding on December 31, 2007	1,672,214			
Granted	340,000			
Exercised	(16,667)			
Forfeited or expired	(265,721)			
Outstanding on December 31, 2008	1,729,826	\$ 5.66	5.47	
Exercisable on December 31, 2008	1,138,299	\$ 6.47	4.15	
Shares available for grant	552,955			

The aggregate intrinsic value in the table above is zero, based on Nanophase's closing stock price of \$1.05 on the last business day for the period ended December 31, 2008.

During the years ended December 31, 2008 and 2007 the total intrinsic value of Nanophase stock options exercised was \$24,517 and \$343,434, respectively. Cash received for option exercises was \$30,417 and \$696,735 during the years ended December 31, 2008 and 2007. Based on the Company's election of the with and without approach, no realized tax benefits from stock options were recognized for the years ended December 31, 2008 and 2007.

#### Restricted Stock

For the years ended December 31, 2008 and 2007, the Company was to grant its outside directors shares of deferred common stock totaling 78,077 and 23,244 shares 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 was \$180,000 and \$144,000, respectively, for the restricted stock grants and is included in stock-based compensation expense for the years ending December 31, 2008 and 2007.

On September 27, 2005, the Company granted 33,333 shares of restricted stock at market value consisting of 16,666 restricted shares and 16,667 performance shares. Grant date fair value was \$5.55 for the September 27, 2005 grant. The restricted shares vest in lump sum or cliff vest on September 27, 2008, provided the grantee has not terminated service prior to the vesting date. On September 27, 2008, 6,100 restricted shares from the September 2005 grant vested at \$1.21. On October 30, 2007, 9,512 restricted shares from the October 2004 grant vested at \$4.80. The fair value of shares vested during 2008 and 2007 was approximately \$7,400 and \$36,200, respectively. The performance shares expired due to the Company not meeting certain performance goals or milestones on December 31, 2008. As of December 31, 2008, the Company does not have any unvested restricted stock or performance shares outstanding.

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For the years ended December 31, 2008 and 2007, the stock-based compensation (recovery) expense was (\$3,756) and \$20,790 for the restricted stock.

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**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

For the years ended December 31, 2008 and 2007 the stock-based compensation (recovery) was (\$29,319) and (\$71,471) for the performance shares. Compensation expense for performance shares is based upon management's estimate of the number of shares that will eventually vest.

**(13) 401(k) Profit-Sharing Plan**

The Company has a 401(k) profit-sharing plan covering substantially all employees who meet defined service requirements. In 2004, the Company amended its 401(k) plan providing for deferred salary contributions by the plan participants and maximum contributions by the Company of 100% of the first 3% and 50% of the next 2% of the participant's salary. The Company contributions under this plan were \$158,541 and \$165,632 for the years ended December 31, 2008 and 2007, respectively.

**(14) Significant Customers and Contingencies**

Revenue from three customers constituted approximately 48.4%, 24.3% and 11.6%, respectively, of the Company's 2008 revenue. Amounts included in accounts receivable on December 31, 2008 relating to these three customers were approximately \$784,000, \$31,000 and \$0, respectively. Revenue from these three customers constituted approximately 48.7%, 25.2% and 6.1%, respectively, of the Company's 2007 revenue. Amounts included in accounts receivable on December 31, 2007 relating to these three customers were approximately \$644,000, \$63,000 and \$460,000, respectively.

The Company currently has a supply agreement with BASF Corporation (BASF), the Company's largest customer, and a 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 agreement with its largest customer, as amended, triggers a technology transfer (license or, 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 or the Company's

**NANOPHASE TECHNOLOGIES CORPORATION**

**NOTES TO FINANCIAL STATEMENTS (Continued)**

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.

**(15) Business Segmentation and Geographical Distribution**

Revenue from international sources approximated \$676,828 and \$641,600 for the years ended December 31, 2008 and 2007, respectively. As part of its revenue from international sources, the Company recognized approximately \$268,704 and \$29,398 in product revenue from several German and Swedish companies respectively, and \$300,000 in other revenue from a technology license fee from its Japanese licensee for the year ended December 31, 2008. Revenue from these same international sources approximated \$203,700, \$750 and \$300,000 for the year ended December 31, 2007. The \$300,000 technology license fee typically received every twelve months from our Japanese licensee is included in each of the two years presented.

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



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**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) 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, on the 25th day of March, 2009.

**NANOPHASE TECHNOLOGIES CORPORATION**

By: /s/ Jess Jankowski  
Jess Jankowski  
President and Chief Executive Officer

By: /s/ Sherman Jung  
Sherman Jung  
Controller

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities indicated on the 25th day of March, 2009.

<b>Signature</b>	<b>Title</b>
/s/ Jess Jankowski Jess Jankowski	Chief Executive Officer, Chief Financial Officer, Treasurer and Secretary (Principal Financial and Accounting Officer)
/s/ Sherman Jung Sherman Jung	Controller
/s/ Donald S. Perkins Donald S. Perkins	Chairman of the Board and Director
/s/ James A. Henderson James A. Henderson	Director
/s/ James A. McClung James A. McClung	Director
/s/ Jerry Pearlman Jerry Pearlman	Director
/s/ Richard W. Siegel Richard W. Siegel	Director
/s/ George Vincent George Vincent	Director
/s/ R. Janet Whitmore	Director

R. Janet Whitmore

**EXHIBIT INDEX**

10.56	Supply Agreement effective as of March 23, 2009, between the Company and Rohm and Haas Electronic Materials CMP Inc.
18	Letter Regarding a Change in Accounting Principle, dated March 24, 2009, by McGladrey & Pullen, LLP.
23.1	Consent of McGladrey & Pullen, LLP.
31.1	Certification of Chief Executive Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
31.2	Certification of the Chief Financial Officer pursuant to Rules 13a-14(a) and 15d-14(a) under the Exchange Act.
32	Certification of the Chief Executive Officer and Chief Financial Officer pursuant to 18 U.S.C. Section 1350.