

NEOSE TECHNOLOGIES INC

Form S-3

April 02, 2007

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As filed with the Securities and Exchange Commission on April 2, 2007

Registration No. 333-_____

**UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**FORM S-3
Registration Statement Under
The Securities Act of 1933**

Neose Technologies, Inc.

(Exact name of Registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

13-3549286

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

102 Rock Road

Horsham, Pennsylvania 19044

(215) 315-9000

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Debra J. Poul, Esquire

Senior Vice President and

General Counsel

Neose Technologies, Inc.

102 Rock Road

Horsham, Pennsylvania 19044

(215) 315-9000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

COPY TO:

Barry M. Abelson, Esq.

Steven J. Abrams, Esq.

Pepper Hamilton LLP

3000 Two Logan Square

Eighteenth and Arch Streets

Philadelphia, PA 19103-2779

(215) 981-4000

As soon as practicable after this Registration Statement becomes effective

(Approximate date of commencement of proposed sale to the public)

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act of 1933, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act of 1933, check the following box and list the Securities Act registration statement number of the earlier effective registration

statement for the same offering. o

If this form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box. o

If this form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box. o

Calculation of Registration Fees

| Title Of Each Class Of Securities To Be Registered | Amount To Be Registered (1) | Proposed Maximum Offering Price Per Share (2) | Proposed Maximum Aggregate Offering Price (2) | Amount Of Registration Fee (2) |
|--|-----------------------------|---|---|--------------------------------|
| Common Stock, par value \$0.01 per share | 31,052,397 | \$2.03 | \$62,881,104 | \$1,930.45 |

- (1) Consists of
- (a) 21,415,447 shares of common stock,
 - (b) 9,636,950 shares of common stock issuable upon the exercise of warrants and
 - (c) an indeterminate number of shares of common stock as may be issuable from time to time as a result of a stock split, stock dividend, capitalization or similar event. In addition, this registration statement registers an indeterminate number of rights (the Rights) to purchase Series A Junior Participating Preferred

Shares, par value \$0.01 per share, pursuant to the Amended and Restated Rights Agreement dated as of December 3, 1998 by and between Neose Technologies, Inc. and American Stock Transfer and Trust Company, as amended.

- (2) Estimated pursuant to Rule 457(c) solely for purposes of calculating the amount of the registration fee, based on the average of the high and low prices of the Registrant's common stock reported on March 26, 2007, as reported on the NASDAQ Stock Market LLC.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

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The information in this prospectus is not complete and may be changed. The selling stockholders named in this prospectus may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities and it is not soliciting offers to buy these securities in any state where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED APRIL 2, 2007

PRELIMINARY PROSPECTUS

**31,052,397 Shares
Common Stock**

We are registering our common stock, par value \$0.01 per share, for resale by the selling stockholders identified in this prospectus. We are not selling any shares of our common stock under this prospectus and we will not receive any of the proceeds from the sale of shares by the selling stockholders. Specifically, this prospectus relates to the resale of 21,415,447 shares of our common stock and 9,636,950 shares of our common stock issuable upon the exercise of warrants. The selling stockholders acquired these shares of common stock and warrants from us in a private placement that closed on March 13, 2007.

For a description of the plan of distribution of the resale shares, see page 6 of this prospectus.

Our common stock is currently traded on the Global Market of The NASDAQ Stock Market LLC under the symbol NTEC. On March 30, 2007, the last reported sales price for our common stock was \$2.57 per share.

INVESTING IN OUR COMMON STOCK INVOLVES RISKS. YOU SHOULD CAREFULLY CONSIDER THE RISK FACTORS INCLUDED IN OUR ANNUAL REPORT ON FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2006 BEFORE YOU DECIDE TO INVEST.

Neither the Securities and Exchange Commission (SEC) nor any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is _____, 2007.

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You should rely only on the information contained or incorporated by reference in this prospectus. We have not, and the selling stockholders have not, authorized anyone to provide you with different information. No one is making offers to sell or seeking offers to buy these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information contained in this prospectus is accurate as of the date on the front of this prospectus only and that any information we have incorporated by reference is accurate as of the date of the document incorporated by reference only, regardless of the time of delivery of this prospectus or any sale of our common stock. Our business, financial condition, results of operations and prospects may have changed since that date.

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WHO WE ARE

We are a clinical-stage biopharmaceutical company focused on the development of next-generation therapeutic proteins. Our lead protein candidates are GlycoPEG-EPO (NE-180), and GlycoPEG-GCSF.

NE-180 is a long-acting version of erythropoietin (EPO) produced in insect cells. EPO is prescribed to stimulate production of red blood cells, and is approved for sale in major markets around the world for treatment of chemotherapy-induced anemia and anemia associated with chronic renal failure. NE-180 is being developed for the treatment of anemia in adult cancer patients with non-myeloid malignancies receiving chemotherapy and for the treatment of anemia associated with chronic kidney disease, including patients on dialysis and patients not on dialysis. During 2006, we completed a Phase I clinical trial for NE-180 in Switzerland. In January 2007, we received approval from Swissmedic, the Swiss Agency for Therapeutic Products, for the initiation of a Phase II human trial to evaluate the safety, tolerability and dose response of NE-180 in cancer patients receiving platinum-based chemotherapy. In March 2007, we received approval from the U.S. Food and Drug Administration to initiate clinical trials in the U.S. in response to our amended Investigational New Drug Application.

Our second proprietary protein, GlycoPEG-GCSF, is a long-acting version of granulocyte colony stimulating factor (G-CSF) that we are co-developing with BioGeneriX AG, a company of the ratiopharm Group. G-CSF is prescribed to stimulate production of neutrophils (a type of white blood cell) and is approved for sale in major markets around the world for treatment of neutropenia associated with myelosuppressive chemotherapy. In November 2006, BioGeneriX initiated the first, and in March 2007 BioGeneriX initiated the second, of two planned Phase I clinical trials for GlycoPEG-GCSF.

Most therapeutic proteins in development or on the market today are glycoproteins proteins with carbohydrate structures attached. These carbohydrates are important to the proper functioning of the proteins. We believe that our enzymatic pegylation technology, GlycoPEGylation, can improve the drug properties of therapeutic proteins by building out, and attaching polyethylene glycol (PEG) to, carbohydrate structures on the proteins. We are using our technology to develop proprietary versions of protein drugs with proven safety and efficacy and to improve the therapeutic profiles of proteins being developed by our partners. We expect these modified proteins, such as NE-180 and GlycoPEG-GCSF, to offer significant advantages, including less frequent dosing and possibly improved efficacy, over the original versions of the drugs now on the market, as well as to meet or exceed the pharmacokinetic profile of next-generation versions of the drugs now on the market. We believe this strategy of targeting drugs with proven safety and efficacy allows us to lower the risk profile of our proprietary development portfolio as compared to de novo protein drug development. We intend to continue to focus our research and development resources on therapeutic proteins that we believe have the highest probability of clinically meaningful therapeutic profile improvements from our technology and are in commercially attractive categories.

Our executive offices and research facility are located at 102 Rock Road, Horsham, PA 19044, our telephone number is 215-315-9000 and our website is at <http://www.neose.com>. Information contained on our website is not incorporated into this prospectus.

RISK FACTORS

The Risk Factors included in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2006 have been incorporated herein by reference. Our business, financial condition or results of operations could be materially adversely affected by any one or more of the risks incorporated herein by reference. The trading price of our common stock could decline due to any one or more of the risks, and you may lose all or part of your investment.

You should carefully consider the risks incorporated herein by reference before making an investment decision. The referenced risks are those currently known to us. Additional risks not presently known to us or that we currently deem immaterial may also impair our business operation.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information in this prospectus and the documents incorporated herein by reference include forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include, but are not limited to, statements about our plans, objectives, representations and contentions and are not historical facts that typically may be identified by use of terms such as anticipate, believe, estimate, plan, may, expect, intend, could, potential, and similar expressions, although some forward-looking statements are expressed differently. These forward-looking statements include, among others, the statements about our:

estimate that our existing cash and cash equivalents, expected proceeds from collaborations and license agreements, and interest income should be sufficient to meet our operating and capital requirements at least through the second quarter of 2008;

expected losses;

expectations for future capital requirements;

expectations for increases in operating expenses;

expectations for increases in research and development, and marketing, general and administrative expenses in order to develop products, procure commercial quantities of reagents and products, and commercialize our technology;

expectations regarding the scope and expiration of patents;

expectations regarding the timing of non-clinical activities, regulatory meetings and submissions, as well as the progression of clinical trials, for NE-180 and GlycoPEG-GCSF;

expectations for the development of long-acting versions of EPO and G-CSF, and subsequent proprietary drug candidates;

expectations regarding net cash utilization;

expectations for generating revenue; and

expectations regarding the timing and character of new or expanded collaborations and for the performance of our existing collaboration partners in connection with the development and commercialization of products incorporating our technologies.

You should be aware that the forward-looking statements included in this prospectus represent management's current judgment and expectations, but our actual results, events and performance could differ materially from those in the forward-looking statements. Potential risks and uncertainties that could affect our actual results include the following:

our ability to obtain the funds necessary for our operations;

our ability to meet forecasted timelines due to internal or external causes;

unfavorable non-clinical and clinical results for our products;

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our ability to develop commercial-scale manufacturing processes for our products and reagents, either independently or in collaboration with others;

the performance of our CROs and CMOs;

our ability to enter into and maintain collaborative arrangements;

our ability to obtain adequate sources of proteins and reagents;

our ability to develop and commercialize products without infringing the patent or intellectual property rights of others;

our ability to expand and protect our intellectual property and to operate without infringing the rights of others;

our ability and our collaborators' ability to develop and commercialize therapeutic proteins and our ability to commercialize our technologies;

our ability to attract and retain key personnel;

our ability to compete successfully in an intensely competitive field; and

general economic conditions.

These and other risks and uncertainties that could affect our actual results are discussed in Item 1A of Part I of our Annual Report on Form 10-K for the year ended December 31, 2006 in the section entitled Risk Factors.

Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, events, levels of activity, performance, or achievements. We do not assume responsibility for the accuracy and completeness of the forward-looking statements other than as required by applicable law. We do not undertake any duty to update any of the forward-looking statements after the date of this prospectus to conform them to actual results, except as required by the federal securities laws.

USE OF PROCEEDS

We will not receive any proceeds from the sale or other disposition by the selling stockholders of the shares of our common stock covered hereby, or interests therein.

The selling stockholders will pay any underwriting discounts and commissions and expenses incurred by the selling stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the selling stockholders in disposing of these shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration fees, listing fees of The NASDAQ Stock Market LLC (NASDAQ) and fees and expenses of our counsel and our accountants.

A portion of the shares of common stock covered by this prospectus are issuable upon exercise of warrants to purchase common stock. Upon any cash exercise of the warrants, the selling stockholders will pay us the exercise price of the warrants. Under certain circumstances, the holders of our warrants may exercise their warrants on a cashless basis. The exercise price of the warrants is \$1.96 per share. We will use any cash we receive upon the exercise of the warrants for working capital.

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SELLING STOCKHOLDERS

The shares of common stock covered hereby consist of:

21,415,447 shares of our common stock that we issued to the selling stockholders in the private placement that closed on March 13, 2007; and

9,636,950 shares of our common stock issued to certain selling stockholders upon exercise of warrants to purchase common stock in the private placement.

In connection with the registration rights we granted to the selling stockholders, we filed with the SEC a registration statement on Form S-3, of which this prospectus forms a part, with respect to the resale or other disposition of the shares of common stock offered by this prospectus from time to time on NASDAQ, in privately negotiated transactions or otherwise. We have also agreed to prepare and file amendments and supplements to the registration statement to the extent necessary to keep the registration statement effective for the period of time required under our agreement with the selling stockholders. The warrants held by the selling stockholders are exercisable at any time in whole or in part and expire on March 8, 2012.

Beneficial ownership is determined in accordance with the rules of the SEC, and is based upon information provided by each respective selling stockholder, Forms 4, Schedules 13D and 13G and other public documents filed with the SEC. The number representing the number of shares of common stock beneficially owned prior to the offering for each selling stockholder includes (i) all shares held by a selling stockholder prior to the private placement, plus (ii) all shares purchased by the selling stockholder pursuant to the private placement and being offered pursuant to this prospectus, as well as (iii) all options or other derivative securities which are exercisable within 60 days of March 30 2007, including the warrants purchased in the private placement. The percentages of shares owned after the offering are based on 54,387,843 shares of our common stock outstanding as of March 30, 2007, which includes the outstanding shares of common stock offered by this prospectus (but not the shares issuable upon exercise of the warrants purchased in the private placement).

Unless otherwise indicated below, to our knowledge, all persons named in this table have sole voting and investment power with respect to their shares of common stock, except to the extent authority is shared by spouses under applicable law. The inclusion of any shares in this table does not constitute an admission of beneficial ownership for the person named below.

Except as noted in the footnotes below, none of the selling stockholders has held any position or office with us or our affiliates within the last three years or has had a material relationship with us or any of our predecessors or affiliates within the past three years, other than as a result of the ownership of our shares or other securities.

The selling stockholders may sell some, all or none of their shares of common stock offered by this prospectus. We do not know how long the selling stockholders will hold their shares of common stock before selling them. We currently have no agreements, arrangements or understandings with the selling stockholders regarding the sale of any of the shares of common stock being offered hereunder other than the securities purchase agreement pursuant to which the selling stockholders purchased their shares of common stock from us. The shares offered by this prospectus may be offered from time to time by the selling stockholders, although the shares of our common stock underlying the warrants will not be eligible to be offered pursuant to this prospectus until the warrants are exercised. Accordingly, for purposes of this table, we have assumed that, after completion of the offering, the only shares that will continue to be held by the selling stockholders are those that were owned immediately prior to the private placement.

The selling stockholders may have sold or transferred, in transactions exempt from the registration requirements of the Securities Act of 1933, as amended (Securities Act), some or all of their shares of common stock since the date on which the information in the table below is presented. Information about the selling stockholders may change over time. Unless otherwise indicated below, the address of each person listed below is c/o Neose Technologies, 102 Rock Road, Horsham, Pennsylvania 19044.

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The following table sets forth, to our knowledge, information about the selling stockholders as of March 30, 2007.

| Name of selling stockholders | Number of Shares of Common Stock Beneficially Owned Prior to the Offering | Number of Shares of Common Stock Registered for Sale Hereby | Number of Shares of Common Stock Underlying Warrants Registered for Sale Hereby | Shares Beneficially Owned After Offering | |
|--|---|---|---|--|---------|
| | | | | Number | Percent |
| 14159, L.P. | 66,370 | 38,830 | 17,473 | 10,067 | * |
| Abingworth Bioequities Master Fund Limited | 1,866,337 | 1,287,129 | 579,208 | | |
| Abingworth Bioventures V L.P. | 1,722,772 | 1,188,119 | 534,653 | | |
| Aries Domestic Fund II, LP | 23,688 | 16,337 | 7,351 | | |
| Aries Domestic Fund, LP | 33,379 | 23,020 | 10,359 | | |
| Arlene Holden Trust (1) | 136,000 | 80,000 | 36,000 | 20,000 | * |
| Atlas Master Fund, Ltd | 207,729 | 143,261 | 64,468 | | |
| Baker Biotech Fund I, L.P. | 808,577 | 450,300 | 202,635 | 155,642 | * |
| Baker Bros. Investments II, L.P. | 17,881 | 2,719 | 1,224 | 13,938 | * |
| Baker Brothers Life Sciences, L.P. | 2,073,384 | 1,217,839 | 548,028 | 307,517 | * |
| Baker/Tisch Investments, L.P. | 49,082 | 22,986 | 10,344 | 15,752 | * |
| BB Biotech Ventures II LP | 3,589,108 | 2,475,247 | 1,113,861 | | |
| Bristol Investment Fund, Ltd. | 358,911 | 247,525 | 111,386 | | |
| Caduceus Capital II, L.P. | 710,500 | 490,000 | 220,500 | | |
| Caduceus Capital Master Fund Limited | 1,123,750 | 775,000 | 348,750 | | |
| Cranshire Capital, L.P. (2) | 215,347 | 148,515 | 66,832 | | |
| Domain Partners V, L.P. (3) | 4,434,129 | 2,418,125 | 1,088,156 | 927,848 | 1.7057% |
| Douglas Sharpe Crut (1) | 5,015 | 2,700 | 1,215 | 1,100 | * |
| Douglas Sharpe Trust (1) | 47,375 | 25,500 | 11,475 | 10,400 | * |
| DP V Associates, L.P. (3) | 104,746 | 57,123 | 25,705 | 21,918 | * |
| Henry Sharpe (1) | 63,613 | 34,250 | 15,413 | 13,950 | * |
| Henry Sharpe Crut (1) | 5,015 | 2,700 | 1,215 | 1,100 | * |
| Henry Sharpe Trust (1) | 142,900 | 77,000 | 34,650 | 31,250 | * |
| HFR SHC Aggressive Master Trust | 143,550 | 99,000 | 44,550 | | |
| Iroquois Master Fund Ltd. | 179,455 | 123,762 | 55,693 | | |
| Matthews Intl. Corp. Employees Retirement Plan (1) | 127,431 | 60,297 | 27,134 | 40,000 | * |
| Medical Strategy GmbH on behalf of PHARMA/wHEALTH | 179,455 | 123,762 | 55,693 | | |
| MHR Capital Partners (100) LP (4) | 483,034 | 256,005 | 115,202 | 111,827 | * |
| MHR Capital Partners Master Account LP (4) | 4,055,152 | 2,219,242 | 998,659 | 837,251 | 1.5391% |
| MPM BioEquities Investors Fund LLC | 14,549 | 6,517 | 2,932 | 5,100 | * |
| MPM BioEquities Master Fund LP | 1,050,243 | 488,533 | 219,840 | 341,870 | * |

| | | | | | |
|---|-------------------|-------------------|------------------|------------------|---------|
| Oppenheim Pramerica Asset Management S.à r.l. on behalf of FCP OP MEDICAL | | | | | |
| BioHe@lth-Trends | 729,542 | 371,287 | 167,079 | 191,176 | * |
| Otago Partners, LLC | 107,673 | 74,257 | 33,416 | | |
| Peggy Sharpe Trust | 95,330 | 51,400 | 23,130 | 20,800 | * |
| Pleiades Investment Partners LP | 966,916 | 219,593 | 98,817 | 648,506 | 1.1922% |
| Potomac Capital International LTD | 937,082 | 212,738 | 95,732 | 628,612 | 1.1556% |
| Potomac Capital Partners LP | 1,370,135 | 310,243 | 139,609 | 920,283 | 1.6918% |
| PW Eucalyptus Fund, Ltd. | 81,200 | 56,000 | 25,200 | | |
| Sarah Sharpe Crut (1) | 18,940 | 10,200 | 4,590 | 4,150 | * |
| Sarah Sharpe Trust (1) | 56,915 | 30,700 | 13,815 | 12,400 | * |
| Sharpe 1990 Grandchildrens Trust (1) | 70,428 | 37,950 | 17,078 | 15,400 | * |
| Sharpe Family Foundation (1) | 69,820 | 37,600 | 16,920 | 15,300 | * |
| Tang Capital Partners, LP | 3,589,109 | 2,475,248 | 1,113,861 | | |
| The Aries Master Fund II | 50,606 | 34,901 | 15,705 | | |
| UBS Eucalyptus Fund, LLC | 812,000 | 560,000 | 252,000 | | |
| Visium Balanced Fund, LP | 754,049 | 520,034 | 234,015 | | |
| Visium Balanced Offshore Fund, LTD | 1,199,624 | 827,327 | 372,297 | | |
| Visium Long Bias Fund, LP | 339,634 | 234,230 | 105,404 | | |
| Visium Long Bias Offshore Fund, LTD | 1,088,074 | 750,396 | 337,678 | | |
| TOTAL | 36,375,554 | 21,415,447 | 9,636,950 | 5,323,157 | |

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* Less than
1 percent.

(1) Arlene Holden
Trust, Douglas
Sharpe Crut,
Douglas Sharpe
Trust, Sharpe
Family
Foundation,
Henry Sharpe,
Henry Sharpe
Crut, Henry
Sharpe Trust,
Sharpe 1990
Grandchildrens
Trust, Peggy
Sharpe Trust,
Sarah Sharpe
Crut, Sarah
Sharpe Trust
and the
Matthews Intl.
Corp.
Employees
Retirement Plan
are managed by
Kopp
Investment
Advisors. Prior
to the closing of
our private
placement of
common stock
and warrants in
March 2007,
Kopp
Investment
Advisors had
voting and/or
investment
control over
more than 10%
of our
outstanding
common stock.

(2)

Mitchell P. Kopin, the president of Downsview Capital, Inc., the general partner of Cranshire Capital, L.P, has sole voting control and investment discretion over securities held by Cranshire Capital, L.P. Each of Mitchell P. Kopin and Downsview Capital, Inc. disclaims beneficial ownership of the shares held by Cranshire Capital, L.P.

(3) Mr. Brian Dovey, one of our directors, is a Managing Member of One Palmer Square Associate V, LLC, which is the general partner of Domain Partners V. L.P. and DP V Associates, L.P.

(4) Mr. Mark H. Rachesky, M.D., one of our directors, is the managing member of MHR Advisors LLC which is general partner

of MHR Capital
Partners
(100) LP and
MHR Capital
Partners Master
Account LP.

PLAN OF DISTRIBUTION

Each selling stockholder and any of his, her or its pledgees, assignees and successors-in-interest may, from time to time, sell any or all of his, her or its shares of our common stock on NASDAQ or any other stock exchange, market or trading facility on which the shares are traded or in private transactions. These sales may be at fixed or negotiated prices. A selling stockholder may use any one or more of the following methods when selling shares:

ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

block trades in which the broker-dealer will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;

purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

an exchange distribution in accordance with the rules of the applicable exchange;

privately negotiated transactions;

settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

broker-dealers may agree with the selling stockholders to sell a specified number of such shares at a stipulated price per share;

through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

a combination of any such methods of sale; or

any other method permitted pursuant to applicable law.

The selling stockholders may also sell shares under Rule 144 under the Securities Act, if available, rather than under this prospectus.

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Broker-dealers engaged by the selling stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the selling stockholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with NASD Regulation (NASDR) Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with NASDR IM-2440.

In connection with the sale of the common stock or interests therein, the selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the common stock in the course of hedging the positions they assume. The selling stockholders may also sell shares of the common stock short and deliver these securities to close out their short positions, or loan or pledge the common stock to broker-dealers that in turn may sell these securities. The selling stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or the creation of one or more derivative securities which require the delivery to such broker-dealer or other financial institution of shares offered by this prospectus, which shares such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The selling stockholders and any broker-dealers or agents that are involved in selling the shares may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each selling stockholder has informed us that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the common stock. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

We are required to pay certain fees and expenses incurred by us incident to this registration statement and the registration of the shares generally. We have agreed to indemnify the selling stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. There is no underwriter or coordinating broker acting in connection with the proposed sale of the resale shares by the selling stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the shares may be resold by the selling stockholders without registration and without regard to any volume limitations by reason of Rule 144(k) under the Securities Act or any other rule of similar effect and (ii) all of the shares have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Under applicable rules and regulations under the Securities Exchange Act of 1934, as amended (Exchange Act), any person engaged in the distribution of the resale shares may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the selling stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of shares of the common stock by the selling stockholders or any other person. We will make copies of this prospectus available to the selling stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

The validity of the shares of our common stock offered by this prospectus will be passed upon for us by Pepper Hamilton LLP, Philadelphia, Pennsylvania.

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EXPERTS

The financial statements of Neose Technologies, Inc. as of December 31, 2006 and 2005, and for each of the years in the three-year period ended December 31, 2006, and management's assessment of the effectiveness of internal control over financial reporting as of December 31, 2006 have been incorporated by reference herein and in the registration statement in reliance upon the reports of KPMG LLP, independent registered public accounting firm, incorporated by reference herein, and upon the authority of said firm as experts in accounting and auditing. The audit report covering the December 31, 2006 financial statements refers to the Company's adoption of the fair value method of accounting for stock-based compensation as required by Statement of Financial Accounting Standards No. 123 (revised 2004), *Share-Based Payment*, effective January 1, 2006.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC. We are a public company and file proxy statements and annual, quarterly and special reports and other information with the SEC. You can inspect and copy the registration statement as well as the reports, proxy statements and other information we have filed with the SEC at the public reference room maintained by the SEC at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can call the SEC at 1-800-732-0330 for further information about the public reference rooms. We are also required to file electronic versions of these documents with the SEC, which may be accessed from the SEC's website at <http://www.sec.gov>.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to incorporate by reference certain of our publicly-filed documents into this prospectus, which means that information included in those documents is considered part of this prospectus. Information that we file with the SEC after the effective date of this prospectus will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, until all the shares of common stock that are part of this offering are sold.

The following documents filed with the SEC are incorporated by reference in this prospectus:

Our Annual Report on Form 10-K for the year ended December 31, 2006;

Our Current Reports on Form 8-K, filed with the SEC on January 16, 2007, March 9, 2007, March 13, 2007, March 15, 2007, March 16, 2007, March 20, 2007 and March 21, 2007, except, in each case, any information or exhibits included with regard to Item 2.02, which is furnished and not filed with the SEC;

The description of our common stock contained in the Registration Statement on Form 8-A filed with the SEC on February 7, 1996, as updated by the description included in our Current Report on Form 8-K filed with the SEC on May 14, 2004;

The description of rights to purchase preferred shares contained in the Registration Statement on Form 8-A filed with the SEC on October 1, 1997, as updated by the description included in our Current Report on Form 8-K filed with the SEC on May 14, 2004; and

All documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement and prior to the effectiveness of the registration statement; and

All documents filed by us with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement of which this prospectus is a part until the termination of this offering.

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You may access our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to any of these reports, free of charge on the SEC's website. We do not consider information contained on, or that can be accessed through, our website to be part of this prospectus.

In addition, we will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, other than exhibits to those documents. You should direct any requests for documents to our Corporate Secretary, c/o Neose Technologies, 102 Rock Road, Horsham, Pennsylvania 19044, or call (215) 315-9000.

You should rely only on the information contained in this prospectus, including information incorporated by reference herein. We have not authorized anyone to provide you with information different from that contained in this prospectus or any prospectus supplement. This prospectus is not an offer of these securities in any jurisdiction where an offer and sale is not permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or any sale of our common stock.

Table of Contents**Part II****Information Not Required In Prospectus****Item 14. Other Expenses of Issuance and Distribution**

The following table sets forth the various expenses in connection with the sale and distribution of the securities being registered. All of the amounts shown are estimates except the SEC registration fee.

| | |
|---------------------------------|------------------|
| SEC registration fee | \$ 1,930 |
| Legal fees and expenses | 143,514 |
| Accounting fees and expenses | 5,000 |
| NASDAQ Fees | 45,000 |
| Miscellaneous fees and expenses | 9,000 |
| TOTAL | \$204,444 |

Item 15. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law (Section 145) permits a corporation to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that he is or was a director, officer or agent of the corporation or another enterprise if serving at the request of the corporation. Depending on the character of the proceeding, a corporation may indemnify against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding if the person indemnified acted in good faith and, in respect to any criminal action or proceeding, had no reasonable cause to believe his conduct was unlawful. In the case of an action by or in the right of the corporation, no indemnification may be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine that, despite the adjudication of liability, such person is fairly and reasonably entitled to indemnity for such expenses which the court shall deem proper. Section 145 further provides that to the extent a director, officer, employee or agent of a corporation has been successful in the defense of any action, suit or proceeding referred to above, or in the defense of any claim, issue or matter therein, he shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by him in connection therewith.

Our Fourth Amended and Restated Certificate of Incorporation limits the personal liability of our directors to us or any of our stockholders for monetary damages for breach of fiduciary duty as a director, provided, however, that this limitation does not apply to any liability of a director (i) for any breach of the director's duty of loyalty to us or our stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of Title 8 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit.

Section 6 of Article 7 of our second amended and restated by-laws provides to the fullest extent permitted by Section 145 for the indemnification of each person who was or is a party or is threatened to be made a party to any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative, by reason of the fact that he or she is or was, or has agreed to become, a director or officer of the corporation, or is or was serving, or has agreed to serve, at the request of the corporation, as a director, officer, or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust, or other enterprise (including any employee benefit plan), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred by such person or on such person's behalf in connection with such action, suit, or proceeding and any appeal therefrom.

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Item 16. List of Exhibits

The exhibits filed as part of this registration statement are as follows:

| Exhibit | Description |
|----------|--|
| 3.1 (1) | Fourth Amended and Restated Certificate of Incorporation. (Exhibit B) |
| 3.2 (2) | Second Amended and Restated By Laws. (Exhibit 3.2) |
| 4.1 | See Exhibits 3.1 and 3.2 for instruments defining rights of holders of common stock. |
| 4.2 (3) | Amended and Restated Rights Agreement, dated as of December 3, 1998, between American Stock Transfer & Trust Company, as Rights Agent, and Neose Technologies, Inc. (Exhibit 4.2) |
| 4.3 (4) | Amendment No. 1, dated November 14, 2000, to the Amended and Restated Rights Agreement, dated as of December 3, 1998, between Neose Technologies, Inc. and American Stock Transfer & Trust Company, as Rights Agent. (Exhibit 4.1) |
| 4.4 (5) | Amendment No. 2, dated June 13, 2002, to the Amended and Restated Rights Agreement, dated as of December 3, 1998, between Neose Technologies, Inc. and American Stock Transfer & Trust Company, as Rights Agent. (Exhibit 4.1) |
| 4.5 (6) | Amendment No. 3, dated October 30, 2002, to the Amended and Restated Rights Agreement, dated as of December 3, 1998, between Neose Technologies, Inc. and American Stock Transfer & Trust Company, as Rights Agent. (Exhibit 4.1) |
| 5.1 * | Opinion of Pepper Hamilton LLP |
| 10.1 (7) | Securities Purchase Agreement by and among Neose Technologies, Inc. and the purchasers appearing on the signature pages thereto dated March 8, 2007 (Exhibit 10.1) |
| 10.2 (7) | Registration Rights Agreement by and among Neose Technologies, Inc. and the purchasers appearing on the signature pages thereto dated March 8, 2007 (Exhibit 10.2) |
| 10.3 (7) | Form of Common Stock Purchase Warrant (U.S.) (Exhibit 10.3) |
| 10.4 (7) | Form of Common Stock Purchase Warrant (non-U.S.) (Exhibit 10.4) |
| 23.1 * | Consent of KPMG LLP |
| 23.2 * | Consent of Pepper Hamilton LLP (included in Exhibit 5.1) |
| 24.1 * | Powers of Attorney (included on signature page) |

* Filed herewith.

(1) Incorporated by reference to our Proxy Statement

filed with the
SEC on
March 30, 2006.

- (2) Incorporated by reference to our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2002.
- (3) Incorporated by reference to our Current Report on Form 8-K filed January 8, 1999 (Commission File No. 000-27718).
- (4) Incorporated by reference to our Current Report on Form 8-K filed November 15, 2000 (Commission File No. 000-27718).
- (5) Incorporated by reference to our Current Report on Form 8-K filed with the SEC on June 13, 2002.
- (6) Incorporated by reference to our Current Report on Form 8-K filed with the SEC on November 1, 2002.

- (7) Incorporated by reference to our Current Report on Form 8-K filed with the SEC on March 13, 2007.

Item 17. Undertakings

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement.

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Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of a prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; *provided, however*, that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the registrant pursuant to section 13 or section 15(d) of the Exchange Act that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

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- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
 - (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and;
 - (iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.
- (b) That, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.
- (c) That, insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

Table of Contents**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, Neose Technologies, Inc. certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in Horsham, Pennsylvania on April 2, 2007.

Neose Technologies, Inc.

By: /s/ George J. Vergis
George J. Vergis, Ph.D.
President and Chief Executive Officer

POWER OF ATTORNEY

Know all persons by these presents, that the undersigned directors and officers of the Registrant, a Delaware corporation, which is filing a Registration Statement on Form S-3 with the Securities and Exchange Commission, Washington, D.C. 20549 under the provisions of the Securities Act of 1933 hereby constitute and appoint A. Brian Davis and Debra J. Poul, and each of them, the individual s true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for the person and in his or her name, place and stead, in any and all capacities, to sign such registration statement and any or all amendments, including post-effective amendments to the registration statement, including a prospectus or an amended prospectus therein and any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act, and all other documents in connection therewith to be filed with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact as agents or any of them, or their substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed below by the following persons in the capacities and on the dated indicated.

| Signature | Title | Date |
|--|---|----------------|
| /s/ George J. Vergis George J. Vergis | President, Chief Executive Officer (Principal Executive Officer) and Director | April 2, 2007 |
| /s/ A. Brian Davis A. Brian Davis | Senior Vice President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer) | April 2, 2007 |
| /s/ L. Patrick Gage L. Patrick Gage | Chairman of the Board of Directors | April 2, 2007 |
| /s/ C. Boyd Clarke C. Boyd Clarke | Director | March 30, 2007 |
| /s/ Brian H. Dovey | Director | April 2, 2007 |

Brian H. Dovey

/s/ William F. Hamilton

Director

April 2, 2007

William F. Hamilton

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| Signature | Title | Date |
|--|----------|---------------|
| /s/ Douglas J. McMaster, Jr. Douglas J. McMaster, Jr. | Director | April 2, 2007 |
| /s/ H. Stewart Parker H. Stewart Parker | Director | April 2, 2007 |
| Mark H.Rachesky | | |
| /s/ Lowell E. Sears Lowell E. Sears | Director | April 2, 2007 |
| /s/ Elizabeth H.S. Wyatt Elizabeth H. S. Wyatt | Director | April 2, 2007 |

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Exhibit Index

| Exhibit | Description |
|---------|--|
| 5.1 | Opinion of Pepper Hamilton LLP regarding legality of securities being registered |
| 23.1 | Consent of KPMG LLP |
| 23.2 | Consent of Pepper Hamilton LLP (included in Exhibit 5.1) |
| 24.1 | Powers of Attorney (included on signature page) |