

Registration No. 333-121681

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

AMENDMENT NO. 2

TO
FORM S-3

REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

DELICATH SYSTEMS, INC.
(Exact name of Issuer as specified in its charter)

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Stamford, Connecticut 06905
(203) 323-8668
(Address, Including Zip Code, and Telephone Number, Including Area Code of
Registrant's Principal Executive Office)

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APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: As soon as practicable after this Registration Statement becomes effective.

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, please check the following box. [X]

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, 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, check the following box and list the Securities Act registration statement number of the earlier registration. If the delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. []

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.

Subject to Completion. Dated April 15, 2005

DELCATH SYSTEMS, INC.

Up to 3,397,909 Shares of Common Stock

This prospectus relates to the offering for resale of up to 3,397,909 shares of our common stock by the selling shareholders named herein (including 2,091,422 shares that we may issue upon exercise of warrants held by such shareholders).

If any of the shares offered hereby are resold, we will not receive any of the proceeds which will go to the person who sells the shares.

Our common stock is currently traded on the Nasdaq SmallCap Market and the Boston Stock Exchange under the symbols "DCTH" and "DCT," respectively. On April 13, 2005, our common stock had a closing price of \$2.40 per share. We also have outstanding warrants that we issued in connection with our public offering in 2000 that trade on the Nasdaq SmallCap Market under the symbol "DCTHW"; on 12, 2005, these warrants had a closing price of \$0.30.

Investing in our securities involves a high degree of risk. See "Risk Factors" beginning on page 1 for factors you should consider before investing in our securities.

Neither the Securities and Exchange Commission nor any state securities commission 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 _____, 2005.

The information in this prospectus is not complete and may be changed. Neither we nor the selling shareholders may 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 an offer to buy these securities in any state where the offer or sale is not permitted.

FOR CALIFORNIA INVESTORS

The offering of our Common Stock in 2003 was approved in California on the basis of a limited offering qualification. Investors who are residents of California must meet a "super suitability" standard of not less than \$250,000 liquid net worth (exclusive of home, home furnishings and automobiles), plus \$65,000 gross annual income or \$500,000 liquid net worth of \$1,000,000 net worth (inclusive of home, home furnishings and automobiles) or \$200,000 gross annual income. We did not have to demonstrate compliance with some or all of the merit regulations of the California Department of Corporations, as found in Title 10, California Code of Regulations, Rule 260.140 et seq.

Residents of the State of California will be unable to sell shares of common stock they purchase in this offering, and investors residing in all other states will be unable to sell shares of common stock they purchase in this offering to California residents, pursuant to exemptions for secondary trading available under California Corporations Code Section 25104(h), as such exemptions have been withheld. However, secondary sales may be made to purchasers who meet the "super suitability" standards or there may be other exemptions to cover private sales by the bona fide owners of our securities for such owners' own account without advertising and without being effected by or through a broker-dealer in a public offering.

TABLE OF CONTENTS

	Page

RISK FACTORS.....	1
Risks Related to Our Business and Financial Condition.....	1
Risks Related to FDA and Foreign Regulatory Approval.....	2
Risks Related to Manufacturing, Commercialization and Market Acceptance of the Delcath System.....	3
Risks Related to Patents, Trade Secrets and Proprietary Rights.....	5
Risks Related to Products Liability.....	5
Risks Related to an Investment in Our Securities.....	6
SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS.....	8
OUR BUSINESS.....	9
General.....	9
Corporate Information.....	9
THE OFFERING.....	9
Terms of our Common Stock.....	9
Terms of the Warrants Issued in November and December 2004.....	10
Transfer Agent.....	11
USE OF PROCEEDS.....	11
SELLING SHAREHOLDERS.....	11
PLAN OF DISTRIBUTION.....	15
LEGAL MATTERS.....	16
EXPERTS.....	16
WHERE CAN YOU FIND MORE INFORMATION.....	17
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE.....	17
DISCLOSURE OF THE SEC'S POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES.....	18

No dealer, salesman or other person has been authorized to give any information or to make any representations other than those contained or incorporated in this prospectus. If given or made, such information or representations must not be relied upon as having been authorized by Delcath Systems, Inc., by the selling security holders or by any other person deemed to be an underwriter. Neither the delivery of this prospectus nor any sale made hereunder shall under any circumstances create an implication that the information contained herein is correct as of any time subsequent to the date hereof or that there has been no change in the affairs of Delcath Systems, Inc. since the date hereof. This prospectus does not constitute an offer to sell or a solicitation of an offer to buy the common stock covered by this prospectus by anyone in any jurisdiction in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

In this prospectus, "Delcath," "we," "us" and "our" refer in each case to Delcath Systems, Inc.

RISK FACTORS

You should consider carefully the following factors, as well as the other information set forth in this prospectus, prior to making an investment in our securities. If any of the following risks and uncertainties actually occur, our business, financial condition or operating results may be materially and adversely affected. In this event, the trading price of our securities may decline and you may lose part or all of your investment.

Risks Related to Our Business and Financial Condition

The following factors relate to risks that are material to our business and financial condition. If any of the possible events we describe below turns out to be the case, our business may be adversely affected and we may be forced to cease or curtail our operations which may result in the loss of your entire investment.

Our entire focus has been the development and commercialization of the Delcath system. If we are not successful in that development and commercialization, or if we are unable to market and sell the product, we will not generate operating revenue or become profitable.

The Delcath system, an enabling technology for the isolation of various organs in the body to permit the delivery of otherwise unacceptably toxic doses of drugs, is our only product. If the Delcath system fails as a commercial product, we have no other products to sell.

Continuing losses may exhaust our capital resources. We have no revenue to date, a substantial accumulated deficit, recurring operating losses and negative cash flow.

We expect to incur significant and increasing losses while generating minimal revenues over the next few years. From our inception on August 5, 1988 through December 31, 2004, we have incurred cumulative losses of \$21.5 million which were principally incurred in connection with our product development efforts. For the years ended December 31, 2003 and December 31, 2004, we incurred net losses of \$2.3 million and \$3.3 million, respectively.

We have funded our operations through a combination of private placements of our securities and through the proceeds of our public offerings in 2000 and 2003. Please see the detailed discussion of our various sales of securities described in Note 2 to our 2004 financial statements that are included in our Annual Report on Form 10-KSB for the year ended December 31, 2004. In addition, we received net proceeds of approximately \$5.4 million from private placements we completed in 2004 and approximately \$2.2 on exercise of warrants and options in 2004.

If we continue to incur losses we may exhaust our capital resources resulting in our being unable to complete the development and commercialization of our product. As we incur additional losses, our accumulated deficit will further increase. As of December 31, 2004, we had cash and cash equivalents and short term investments of \$7.3 million.

We will likely need additional funding to complete the required clinical trials and our efforts to raise additional financing may be unsuccessful.

Before we can obtain approval to sell our product commercially, we will need premarket approval from the FDA which, in turn, requires that we complete clinical trials to establish the effectiveness of our system. We will likely need additional funding to complete the required clinical trials, and we may not be able to raise additional funds on reasonable terms or at all. Many of the costs incurred in conducting clinical trials are not within our control, including additional trials that the FDA may require; we are unable, therefore, to provide an estimate of the costs we will incur in completing the clinical trials. In addition,

completion of the clinical trials does not guarantee that the FDA will give us the required approvals in a timely manner or will give them to us at all.

If we do not raise any additional capital that may be required to commercialize the Delcath system, our potential to generate future revenues will be significantly limited even if we receive FDA premarket approval.

Our current resources may not be sufficient to complete Phase III clinical trials using doxorubicin or to complete clinical trials using melphalan and will be insufficient to fund the costs of commercializing the Delcath system which will be significant. We have no commitments for any additional financing. If we are unable to obtain additional financing as needed, we will not be able to sell the system commercially.

Risks Related to FDA and Foreign Regulatory Approval

The following factors relate to risks that are material to obtaining FDA and foreign regulatory approval. If any of the events we describe below turns out to be the case, our business may be adversely affected and we may be forced to cease or curtail our operations which may result in the loss of your entire investment.

Even if the FDA grants premarket approval for use of the Delcath system for the treatment of melanoma that has metastasized to the liver with doxorubicin, our ability to market the device would be limited to that use. Separate FDA approval would be needed to market the system for use with other drugs or to treat other diseases. Lack of such specific approvals will limit our ability to market our product.

If the FDA grants premarket approval for use of the Delcath system in the treatment of melanoma that has metastasized to the liver with doxorubicin, our ability to market the system would be limited to its use with that drug in treating that disease. Thereafter, physicians could use the system for the treatment of other cancers or using other drugs ("off label" use), but we could not market it for such uses. This would limit our ability to market our product and could result in substantially reduced sales.

If we do not obtain FDA premarket approval, we may not be able to export the Delcath system to foreign markets, which will limit our sales opportunities.

If the FDA does not approve our application for premarket approval for the Delcath system, we will not be able to export the Delcath system from the United States for marketing abroad unless approval has been obtained from one of a number of developed nations. If we do not have such approval, we will not be eligible to use a simplified registration process for the Delcath system in a number of countries including the members of the European Union, Great Britain and Australia. We have not begun to seek foreign regulatory approval and may not be able to obtain approval from one or more countries where we would like to sell the Delcath system. If we are unable to market the Delcath system internationally because we are not able to obtain required approvals, our international market opportunity will be materially limited.

Because of our limited experience, conduct of clinical trials and obtaining FDA premarket approval could be delayed.

We have experienced and may continue to experience delays in conducting and completing required clinical trials, caused by many factors, including our limited experience:

- o in arranging for clinical trials;
- o in evaluating and submitting the data gathered from clinical trials;
- o in designing trials to conform to the trial protocols authorized by the FDA;

- o in complying with the requirements of institutional review boards at the sites where the trials may be conducted; and
- o in identifying clinical test sites and sponsoring physicians.

Completion of our clinical trials will also depend on the ability of the clinical test sites to identify patients to enroll in the clinical trials since the population of appropriate subjects (i.e., patients with melanoma that has metastasized to the liver) is limited. The trials may also take longer to complete because of difficulties we may encounter in entering into agreements with clinical testing sites to conduct the trials. Any significant delay in completing clinical trials or in the FDA's responding to our submission or a requirement by the FDA for us to conduct additional trials would delay the commercialization of the Delcath system and our ability to generate revenues.

Third-party reimbursement may not be available to purchasers of the Delcath system or may be inadequate, resulting in lower sales even if FDA premarket approval is granted.

Physicians, hospitals and other health care providers may be reluctant to purchase our system if they do not receive substantial reimbursement for the cost of the procedures using our products from third-party payors, including Medicare, Medicaid and private health insurance plans.

Because the Delcath system currently is characterized by the FDA as an experimental device, Medicare, Medicaid and private health insurance plans will not reimburse its use in the United States. We will not begin to seek to have third-party payors reimburse the cost of the Delcath system until after its use is approved by the FDA. Each third-party payor independently determines whether and to what extent it will reimburse for a medical procedure or product. Third-party payors in the United States or abroad may decide not to cover procedures using the Delcath system. Further, third-party payors may deny reimbursement if they determine that the Delcath system is not used in accordance with established payor protocols regarding cost effective treatment methods or is used for forms of cancer or with drugs not specifically approved by the FDA.

New products are under increased scrutiny as to whether or not they will be covered by the various healthcare plans and the level of reimbursement which will be applicable to respective covered products and procedures. A third-party payor may deny reimbursement for the treatment and medical costs associated with the Delcath system, notwithstanding FDA or other regulatory approval, if that payor determines that the Delcath system is unnecessary, inappropriate, not cost effective, experimental or is used for a non-approved indication.

Risks Related to Manufacturing, Commercialization and Market Acceptance of the Delcath System

We obtain necessary components for the Delcath system from sole-source suppliers. Because manufacturers must demonstrate compliance with FDA requirements, if our present suppliers fail to meet such requirements or if we change any supplier, the successful completion of the clinical trials and/or the commercialization of the Delcath system could be jeopardized.

We must ensure that the components of the Delcath system are manufactured in accordance with manufacturing and performance specifications of the Delcath system on file with the FDA and with drug and device good manufacturing practice requirements. Many of the components of the Delcath system are manufactured by sole source suppliers. If any of our suppliers fails to meet our needs, or if we need to seek an alternate source of supply, we may be forced to suspend or terminate our clinical trials. Further, if we need a new source of supply after commercial introduction of the Delcath system, we may face long interruptions in obtaining necessary components, which could jeopardize our ability to supply the Delcath system to the market.

Currently the Delcath system kit is being manufactured domestically by the OEM division of B. Braun Medical, Inc. of Germany which also supplies the other catheters and accessories and assembles the Delcath system kit. Medtronic USA, Inc. currently manufactures the components of the blood filtration circuit located outside of the body, including the medical tubing through which the patient's blood flows and various connectors and the blood filtration pump head. Historically, the Company purchased activated charcoal filters used in the Delcath system from Asahi Medical Products of Japan. Because Asahi has discontinued manufacturing these filters, we are currently testing an alternative filter from a domestic manufacturer.

We do not have any contracts with suppliers for the manufacture of components for the Delcath system. If we are unable to obtain an adequate supply of the necessary components, we may not be able timely to complete our clinical trials.

We do not have any contracts with suppliers for the manufacture of components for the Delcath system. Certain components are available from only a limited number of sources. To date, we have only had components of the Delcath system manufactured for us in small quantities for use in pre-clinical studies and clinical trials. We will require significantly greater quantities to commercialize the product. Notwithstanding our best efforts, we may not be able to find an alternate source of comparable components. If we are unable to obtain adequate supplies of components from our existing suppliers or need to switch to an alternate supplier, commercialization of the Delcath system could be delayed.

Because of our limited experience in marketing products and our lack of adequate personnel to market and sell products, we may not be successful in marketing and selling the Delcath system even if we receive FDA premarket approval.

We have not previously sold, marketed or distributed any products and currently do not have the personnel, resources, experience or other capabilities to market the Delcath system adequately. Our success will depend upon our ability to attract and retain skilled sales and marketing personnel. Competition for sales and marketing personnel is intense, and we may not be successful in attracting or retaining such personnel. Our inability to attract and retain skilled sales and marketing personnel could adversely affect our business, financial condition and results of operations.

Market acceptance of the Delcath system will depend on substantial efforts and expenditures in an area with which we have limited experience.

Market acceptance of the Delcath system will depend upon a variety of factors including whether our clinical trials demonstrate a significant reduction in the mortality rate for the kinds of cancers treated on a cost-effective basis, our ability to educate physicians on the use of the Delcath system and our ability to convince healthcare payors that use of the Delcath system results in reduced treatment costs to patients. We have only limited experience in these areas and we may not be successful in achieving these goals. Moreover, the Delcath system replaces treatment methods in which many hospitals have made a significant investment. Hospitals may be unwilling to replace their existing technology in light of their investment and experience with competing technologies. Many doctors and hospitals are reluctant to use a new medical technology until its value has been demonstrated. As a result, the Delcath system may not gain significant market acceptance among physicians, hospitals, patients and healthcare payors.

Rapid technological developments in treatment methods for liver cancer and competition with other forms of liver cancer treatments could result in a short product life cycle for the Delcath system.

Competition in the cancer treatment industry, particularly in the markets for systems and devices to improve the outcome of chemotherapy treatment, is intense. The Delcath system competes with all forms of liver cancer treatments that are alternatives to the "gold standard" treatment of surgical resection. Many of

our competitors have substantially greater resources, especially financial and technological. In addition, some of our competitors have considerable experience in conducting clinical trials and other regulatory procedures. These competitors are developing systems and devices to improve the outcome of chemotherapy treatment for liver cancer. If these competitors develop more effective or more affordable products or treatment methods, our profitability will be substantially reduced and the Delcath system could have a short product life cycle.

We have employment agreements with our President and Chief Executive Officer and our Chief Technical Officer whom we believe are important to our efforts to commercialize the Delcath system. The unavailability of the services of either of them could delay our successful commercial introduction of the Delcath system.

We have entered into employment agreements with M. S. Koly, our President and Chief Executive Officer, and Samuel Herschkowitz, M.D., our Chief Technical Officer, each of whom has played an important role in our efforts to obtain FDA premarket approval of our product. We maintain a life insurance policy on Mr. Koly. The loss of the services of either of them could delay our completing the clinical trials, our obtaining FDA premarket approval, our introducing the Delcath system commercially and our generating revenues and profits.

Risks Related to Patents, Trade Secrets and Proprietary Rights

Our success depends in large part on our ability to obtain patents, maintain trade secret protection and operate without infringing on the proprietary rights of third parties.

Because of the length of time and expense associated with bringing new medical devices to the market, the healthcare industry has traditionally placed considerable emphasis on patent and trade secret protection for significant new technologies. Litigation may be necessary to enforce any patents issued or assigned to us or to determine the scope and validity of third-party proprietary rights. Litigation could be costly and could divert our attention from our business. If others file patent applications with respect to inventions for which we already have patents issued to us or have patent applications pending, we may be forced to participate in interference proceedings declared by the United States Patent and Trademark Office to determine priority of invention, which could also be costly and could divert our attention from our business. If a third party violates our intellectual property rights, we may be unable to enforce our rights because of our limited resources. Use of our limited funds to defend our intellectual property rights may also affect our financial condition adversely.

Risks Related to Products Liability

We do not currently carry products liability insurance and we may not be able to acquire sufficient coverage in the future to cover large claims.

Clinical trials, manufacturing and product sales may expose us to liability claims from the use of the Delcath system. Though participants in clinical trials are generally required to execute consents and waivers of liability, a court might find such consents and waivers of liability to be ineffective or invalid. Were such a claim asserted and even if we prevail on the merits, we would likely incur substantial legal and related expenses. In connection with our clinical trials in Australia, we have obtained a liability policy providing both an aggregate limit and a per occurrence limit of \$5 million coverage for claims that might be asserted by participants in those trials. Claims for damages, whether or not successful, could cause delays in the clinical trials and result in the loss of physician endorsement. A successful products liability claim or recall would have a material adverse effect on our business, financial condition and results of operations.

Risks Related to an Investment in Our Securities

The following factors relate to risks that are material to an investment in our common stock. Any of these factors could result in lowering the market value of our common stock and our warrants.

There is a relatively limited public float of our common stock and of our publicly-traded warrants. Because of this, trades of relatively small amounts of our common stock can have a disproportionate effect on the market price for our common stock. The market price of our common stock has historically been volatile. During the three years ended December 31, 2004, the range of the high and low sales prices of our common stock have ranged from a high of \$4.37 (during the quarter ended March 31, 2004) to a low of \$0.31 (during the quarter ended December 31, 2002).

Of our outstanding common stock, approximately 90% (including the shares that could be sold by the selling security holders named herein and in other registration statements we have filed under the Securities Act of 1933 covering the resale of shares of our common stock) can be considered to be in the public float. The term "public float" refers to shares freely and actively tradeable on the Nasdaq Small Cap Market and/or the Boston Stock Exchange and not beneficially owned by officers, directors or affiliates, as such term is defined under the Securities Act. However, because of the relatively significant number of shares held by the investors in our private placements in 2004, the sale of shares by one or more of such investors could have a disproportionate effect on the market price for our common stock. As a result, the market price of our common stock can be volatile.

The number of shares eligible for future sale by a limited number of institutional investors may cause the market price of our common stock to be below the level it otherwise would be.

The Company sold approximately 2.8 million shares and issued warrants to purchase approximately 2.5 million additional shares in private placements in 2004 to 11 institutional investors. All of these shares are eligible for resale either pursuant to the registration statement of which this Prospectus is a part or pursuant to another effective registration statement filed with the SEC. The sales of substantial amounts of our common stock by such investors or the perception that such sales could occur, often called "equity overhang," could adversely affect the market price of our common stock.

In addition, we may issue substantial amounts of common stock upon exercise of options outstanding under our stock option plans which are designed principally to retain the services of our key employees. As of December 31, 2004, there were options to purchase approximately 1.0 million shares outstanding under our option plans and an additional 3.0 million shares reserved for issuance under our 2004 Stock Incentive Plan. As of that date, there were also outstanding warrants to purchase approximately 4.4 million shares.

Sales of substantial amounts of common stock or the perception that such sales could occur, could have an adverse effect on prevailing market prices for our common stock and our publicly-traded warrants.

Anti-takeover provisions in our certificate of incorporation and by-laws and under Delaware law and our stockholder rights agreement may reduce the likelihood of a potential change of control, and certain provisions of our certificate of incorporation and by-laws and of our stockholders rights plan could make it more difficult for the Company's stockholders to replace management.

Provisions of our certificate of incorporation, by-laws and Delaware law and of our stockholders rights agreement may have the effect of discouraging, delaying or preventing a change in control of us or unsolicited acquisition proposals that a stockholder might consider favorable. Certain provisions of our certificate of incorporation and by-laws and of our stockholders rights agreement could have the effect of making it more difficult for the Company's stockholders to replace management at a time when a substantial number of our stockholders would favor a change in management. These include provisions:

- o providing for a classified board and permitting the removal of a director only for cause;
- o authorizing the board of directors to fill vacant directorships or increase the size of our board of directors; and
- o subjecting us to the provisions of Section 203 of the Delaware General Corporate Law, which provides that a Delaware corporation may not engage in any of a broad range of business combinations with a person or entity who owns 15% or more of the outstanding voting stock of that company for a period of three years from the date the person or entity became an interested stockholder unless (a) prior to such time the board of directors of the corporation approved either the business combination or the transaction which resulted in the stockholder's becoming an interested stockholder or (b) upon consummation of the transaction which resulted in the stockholder's becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced or (c) at or subsequent to such time the business combination is approved by the board of directors and authorized at an annual or special meeting of stockholders by the affirmative vote of at least 66 2/3% of the outstanding voting stock not owned by the interested stockholder.

Furthermore, our board of directors has the authority to issue shares of preferred stock in one or more series and to fix the rights and preferences of the shares of any such series without stockholder approval. Any series of preferred stock is likely to be senior to the common stock with respect to dividends, liquidation rights and, possibly, voting rights. Our board's ability to issue preferred stock may have the effect of discouraging unsolicited acquisition proposals, thus adversely affecting the market price of our common stock and warrants.

We also have a stockholder rights agreement which could have the effect of substantially increasing the cost of acquiring us unless our board of directors supports the transaction even if the holders of a majority of our common stock are in favor of the transaction.

Our common stock is listed on the Nasdaq SmallCap Market. If we fail to meet the requirements of the Nasdaq Stock Market for continued listing, our common stock could be delisted.

Our common stock is currently listed on the Nasdaq SmallCap Market. To keep such listing, we are required to maintain: (i) a minimum bid price of \$1.00 per share, (ii) a certain public float, (iii) a certain number of round lot shareholders and (iv) one of the following: a net income from continuing operations (in the latest fiscal year or two of the three last fiscal years) of at least \$500,000, a market value of listed securities of at least \$35 million or a stockholders' equity of at least \$2.5 million. We were notified by the Nasdaq SmallCap Market on one occasion that we failed to meet the minimum bid price requirement and on two occasions that we did not meet the requirement that we meet one of the following conditions: that the market value of our common stock be at least \$35 million; that we have stockholders' equity of not less than \$2.5 million; or that we meet certain income tests. If we do not meet all of the applicable criteria, our common stock could be delisted from the Nasdaq SmallCap Market.

If our common stock is delisted from the Nasdaq SmallCap Market, we may be subject to the risks relating to penny stocks.

If our common stock were to be delisted from trading on the Nasdaq SmallCap Market and the trading price of the common stock remains below \$5.00 per share on the date the common stock were delisted, trading in our common stock would also be subject to the requirements of certain rules promulgated under the Exchange Act. These rules require additional disclosure by broker-dealers in connection with any trades involving a stock defined as a penny stock and impose various sales practice requirements on broker-dealers who sell penny stocks to persons other than established customers and accredited investors, generally institutions. The additional burdens imposed upon broker-dealers by such requirements may discourage

broker-dealers from effecting transactions in securities that are classified as penny stocks, which could severely limit the market price and liquidity of such securities and the ability of purchasers to sell such securities in the secondary market.

A penny stock is defined generally as any non-exchange listed equity security that has a market price of less than \$5.00 per share, subject to certain exceptions.

California investors may not be able to resell the securities.

Our public offering in 2003 was approved in California on the basis of a limited offering qualification. Investors who are residents of California must meet a "super suitability" standard of not less than \$250,000 liquid net worth (exclusive of home, home furnishings and automobiles), plus \$65,000 gross annual income or \$500,000 liquid net worth or \$1,000,000 net worth (inclusive of home, home furnishings and automobiles) or \$200,000 gross annual income. We did not have to demonstrate compliance with some or all of the merit regulations of the California Department of Corporations, as found in Title 10, California Code of Regulations, Rule 260.140 et seq.

Residents of the State of California may be unable to sell shares of common stock they purchase in this offering, and investors residing in all other states may be unable to sell shares of common stock they purchase in this offering to California residents, pursuant to exemptions for secondary trading available under California Corporations Code Section 25104(h), as such exemptions have been withheld. However, secondary sales may be made to purchasers who meet the "super suitability" standards or there may be other exemptions to cover private sales by the bona fide owners of our securities for such owners' own account without advertising and without being effected by or through a broker-dealer in a public offering.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this prospectus and in the documents incorporated herein by reference, including statements of our expectations, intentions, plans, objectives and beliefs, are "forward-looking statements," within the meaning of Section 21E of the Securities Exchange Act of 1934, that are subject to certain events, risks and uncertainties that may be outside our control. These forward-looking statements may be identified by the use of words such as "expects," "anticipates," "intends," "plans" and similar expressions. They include statements of our future plans and objectives for our future operations and statements of future economic performance, information regarding our expected growth, our capital budget and future capital requirements, the availability of funds and our ability to meet future capital needs, the realization of our deferred tax assets and the assumptions described in this prospectus and in the documents incorporated herein by reference underlying such forward-looking statements. Actual results and developments could differ materially from those expressed in or implied by such statements due to a number of factors, including those described in the context of such forward-looking statements, our ability to achieve operating efficiencies, industry pricing and technology trends, evolving industry standards, domestic and international regulatory matters, general economic and business conditions, the strength and financial resources of our competitors, our ability to find and retain skilled personnel, the political and economic climate in which we conduct operations, the risks discussed in "Risk Factors" and other risk factors described from time to time in our other documents and reports filed with the Securities and Exchange Commission. We do not assume any responsibility to update any of our forward-looking statements regardless of whether factors change as a result of new information, future events or for any other reason. We advise you to review any additional disclosures we make in our Form 10-KSB, Form 10-QSB and Form 8-K reports filed with the SEC.

OUR BUSINESS

General

Since our founding in 1988, we have been a development stage company engaged primarily in developing a drug-delivery system which is designed to isolate the liver from the general circulatory system and to administer chemotherapy and other therapeutic agents directly to the liver. Our objectives are to establish the use of the Delcath system as the standard technique for delivering chemotherapy agents to the liver and to expand the Delcath technology so that it may be used in the treatment of other liver diseases and of cancers in other parts of the body.

A more complete description of our business is contained in our Annual Report on Form 10-KSB for the year ended December 31, 2004. See "Incorporation of Certain Documents by Reference."

Corporate Information

Our executive offices are located at 1100 Summer Street, Stamford, Connecticut 06905. Our telephone number at this location is (203) 323-8668. We maintain a corporate website located at <http://www.delcathsystems.com>. The contents of our website are not included as part of this prospectus.

THE OFFERING

- | | | |
|---|---|---|
| Common stock offered by the Selling Shareholders | o | 3,326,412 shares issued in connection with private placements in November and December 2004 to accredited investors or issuable upon exercise of warrants issued to such investors; and |
| | o | 71,497 shares issuable upon exercise of outstanding warrants issued to the placement agent in connection with our November 2004 private placement to accredited investors. |
| Shares outstanding at February 28, 2005 | o | 15,391,765 shares |
| Trading symbols of our publicly traded securities | o | Our common stock is traded on the Nasdaq SmallCap Market and the Boston Stock Exchange under the symbols "DCTH" and "DCT," respectively. |
| | o | The warrants we issued in connection with our public offering in 2000 are traded on the Nasdaq SmallCap Market and the Boston Stock Exchange under the symbols "DCTHW" and "DCT," respectively. |

Terms of our Common Stock

As of February 28, 2005, there were 15,391,765 shares of our common stock outstanding. Assuming all outstanding warrants (including the warrants issued in connection with our private placements in November and December 2004) are exercised for the issuance of 4,417,748 shares of common stock, there would be 19,809,513 shares of common stock outstanding.

Holders of common stock are entitled to one vote for each share on all matters submitted to a stockholder vote. Holders of common stock do not have cumulative voting rights. Therefore, holders of a majority of the shares of common stock voting for the election of directors can elect all of the directors.

Holders of common stock are entitled to share in all dividends that the board of directors, in its discretion, declares from legally available funds. In any liquidation, dissolution or winding up of Delcath, each outstanding share entitles its holder to participate pro rata in all assets that remain after payment of liabilities and after providing for each class of stock, if any, having preference over the common stock.

Holders of common stock have no conversion, preemptive or other subscription rights and there are no redemption provisions applicable to the common stock. The rights of the holders of common stock are subject to any rights that may be fixed for holders of preferred stock, when and if any preferred stock is issued. All outstanding shares of common stock are, and the shares underlying all options and warrants will be, duly authorized, validly issued, fully paid and non-assessable upon our issuance of these shares.

Terms of the Warrants Issued in November and December 2004

As of the date hereof, there were 2,091,422 outstanding warrants issued in connection with our private placements in November and December 2004 (including those issued to the placement agent in connection with the private placement in November).

In connection with our private placement in November 2004, we issued three series of warrants referred to as the Series A warrants, the Series B warrants and the Series C warrants. In connection with our private placement in December 2004, we issued Series D warrants.

As of the date hereof, there are outstanding 499,306 Series A warrants. Each Series A warrant entitles the holder thereof to purchase one share of common stock at a price of \$2.78, subject to adjustment, at any time up to November 24, 2009. Commencing one year from the effective date of the registration statement of which this prospectus is a part, our Series A warrants may be redeemed at our option at a redemption price of \$0.10 per warrant provided (i) the average per share market value of our common stock for the 20 trading days prior to the date of notice of redemption is at least 150% of the warrant exercise price, (ii) such registration statement is then in effect and has been in effect for at least 60 consecutive calendar days and (iii) trading in our common stock has not been suspended by the SEC or the Nasdaq SmallCap Market.

As of the date hereof, there are outstanding 1,069,520 Series B warrants. Each Series B warrant entitles the holder thereof to purchase one share of common stock at a price of \$2.60, subject to adjustment, at any time beginning on the date the registration statement of which this prospectus is a part is declared effective and ending on the date that is ninety trading days following such date. At any time after the date the registration statement of which this prospectus is a part is declared effective, our Series B warrants may be redeemed at our option at a redemption price of \$0.10 per warrant provided (i) the average per share market value of our common stock for the 20 trading days prior to the date of notice of redemption is greater than \$2.60, (ii) such registration statement is then effective and has been in effect for at least 20 consecutive calendar days and (iii) trading in our common stock has not been suspended by the SEC or the Nasdaq SmallCap Market.

As of the date hereof, there are outstanding 427,809 Series C warrants. Each Series C warrant entitles the holder thereof to purchase one share of common stock at a price of \$2.78, subject to adjustment. The Series C warrants are exercisable at any time between November 24, 2004 and the earlier of (i) the date that is ninety trading days following the effective date of the registration statement of which this prospectus is a part if the holder does not exercise its Series B warrant and (ii) November 24, 2009 if the holder does exercise its Series B warrant. Commencing one year from the effective date of the registration statement of which this prospectus is a part, our Series C warrants may be redeemed at our option at a redemption price of \$0.10 per warrant provided (i) the average per share market value of our common stock for the 20 trading days prior to the date of notice of redemption is at least 150% of the warrant exercise price, (ii) such registration statement is then in effect and has been in effect for at least 60 consecutive calendar days and (iii) trading in our common stock has not been suspended by the SEC or the Nasdaq SmallCap Market.

As of the date hereof, there are outstanding 94,787 Series D warrants. Each Series D warrant entitles the holder thereof to purchase one share of common stock at a price of \$3.26, subject to adjustment, at any time up to December 7, 2009. Commencing one year from the effective date of the registration statement of which this prospectus is a part, our Series D warrants may be redeemed at our option at a redemption price of \$0.10 per warrant provided (i) the average per share market value of our common stock for the 20 trading days prior to the date of notice of redemption is at least 150% of the warrant exercise price, (ii) such registration statement is then in effect and has been in effect for at least 60 consecutive calendar days and (iii) trading in our common stock has not been suspended by the SEC or the Nasdaq SmallCap Market.

Transfer Agent

The transfer agent for our common stock is American Stock Transfer & Trust Company.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the shares offered hereby. All proceeds will be retained by the Selling Shareholder who sells the shares.

SELLING SHAREHOLDERS

The following table sets forth the number and percentage of shares that are being registered by this Prospectus for the account of the entities listed below (the "Selling Shareholders"). The shares to which this prospectus relates were originally acquired by the Selling Shareholders in private placements in the Fall of 2004 or are shares that may be acquired upon exercise of warrants acquired in connection with such placements. These sales were exempt from registration pursuant to Rule 506 under the Securities Act as sales made only to "accredited investors." The shares may be sold by the Selling Shareholders, or any of their assigns, from time to time in the public marketplace. The Selling Shareholders are not obligated to exercise any of their warrants. All information contained in the table below is based on information provided to us by the Selling Shareholders, and we have not independently verified this information. The Selling Shareholders are not making any representation that the shares covered by this prospectus will be offered for sale. The Selling Shareholders may from time to time offer and sell pursuant to this prospectus any or all of the shares being registered for resale.

The applicable percentages of ownership are based on an aggregate of 15,391,765 shares of our common stock issued and outstanding as of February 28, 2005 plus, in the case of each Selling Shareholder, the number of shares such Selling Shareholder could acquire within 60 days on exercise of warrants. None of the Selling Shareholders has had a material relationship with us, or with our predecessors or affiliates, at any time during the past three years.

Shareholder -----	Shares Beneficially Owned Prior to the Offering(1) -----		Shares Being Offered(2) -----		Shares Beneficially Owned After the Offering Number Percent (%) ----- -----	
	Iroquois Capital LP	1,601,063	(3)	1,497,328	(4)	103,735 (4)
Omicron Master Trust	1,180,734	(5)	973,264	(6)	207,470 (6)	1.3%
Cranshire Capital LP	524,066	(7)	524,066		0	0%

Shareholder -----	Shares Beneficially Owned Prior to the Offering(1) -----	Shares Being Offered(2) -----	Shares Beneficially Owned After the Offering Number -----	Percent (%) -----
H.C. Wainwright & Co., Inc.	65,674 (8)	35,784 (9)	29,92 (10)	*%
John R. Clarke	26,241 (11)	16,981 (12)	9,260 (13)	*%
Scott F. Koch	26,241 (14)	16,981 (15)	9,260 (16)	*%
Ari J. Fuchs	3,287 (17)	1,787 (18)	1,500 (19)	*%
New England Partners Capital L.P.	331,754 (20)	331,754	0	0%

* Less than 1%.

(1) Unless otherwise noted, all of the shares shown are held by individuals or entities possessing sole voting and investment power with respect to such shares. Shares not outstanding but deemed beneficially owned by virtue of the right of a person to acquire them within 60 days, by the exercise of options or warrants are deemed outstanding in determining the number of shares beneficially owned by such person. Because the Selling Shareholders may choose not to sell any of the shares offered by this prospectus, and because there are currently no agreements, arrangements or undertakings with respect to the sale of any of the shares of common stock, we cannot estimate the number of shares that the Selling Shareholders will hold after completion of the offering. For purposes of this table, we have assumed that the Selling Shareholders will have sold all of the shares covered by this prospectus upon the completion of the offering.

(2) Assumes the sale of all shares of common stock issuable upon the exercise of the warrants issued to certain of the Selling Shareholders in connection with our private placement in November 2004 (including the warrants issued to the placement agent) and the warrants issued to one of the Selling Shareholders in connection with our private placement in December 2004.

(3) Includes 1,066,303 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004 and 20,747 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.

Joshua Silverman has voting control and investment decision over securities held by Iroquois Capital, LP. Mr. Silverman disclaims beneficial ownership of the shares held by Iroquois Capital, LP.

(4) Includes 20,747 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.

(5) Includes 625,670 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004 and 41,494 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.

Omicron Capital, L.P., a Delaware limited partnership ("Omicron Capital"), serves as investment manager to Omicron Master Trust, a trust formed under the laws of Bermuda ("Omicron"), Omicron Capital, Inc., a Delaware corporation ("OCI"), serves as general partner of Omicron Capital, and Winchester Global Trust Company Limited ("Winchester") serves as the trustee of Omicron. By reason of such relationships, Omicron Capital and OCI may be deemed to share dispositive power over the shares of our common stock owned by Omicron, and Winchester may be deemed to share voting and dispositive power

over the shares of our common stock owned by Omicron. Omicron Capital, OCI and Winchester disclaim beneficial ownership of such shares of our common stock. Omicron Capital has delegated authority from the board of directors of Winchester regarding the portfolio management decisions with respect to the shares of common stock owned by Omicron and, as of the date hereof, Mr. Olivier H. Morali and Mr. Bruce T. Bernstein, officers of OCI, have delegated authority from the board of directors of OCI regarding the portfolio management decisions of Omicron Capital with respect to the shares of common stock owned by Omicron. By reason of such delegated authority, Messrs. Morali and Bernstein may be deemed to share voting and dispositive power over the shares of our common stock owned by Omicron. Messrs. Morali and Bernstein disclaim beneficial ownership of such shares of our common stock and neither of such persons has any legal right to maintain such delegated authority. No other person has sole or shared voting or dispositive power with respect to the shares of our common stock being offered by Omicron, as those terms are used for purposes under Regulation 13D-G of the Securities Exchange Act of 1934, as amended. Omicron and Winchester are not "affiliates" of one another, as that term is used for purposes of the Securities Exchange Act of 1934, as amended, or of any other person named in this prospectus as a selling stockholder. No person or "group" (as that term is used in Section 13(d) of the Securities Exchange Act of 1934, as amended, or the SEC's Regulation 13D-G) controls Omicron and Winchester.

(6) Includes 41,494 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.

(7) Includes 336,900 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004.

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

(8) Includes 35,748 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004, and 29,926 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.

(9) Consists of shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004.

H. C. Wainwright & Co, Inc. ("HCW") is a registered broker-dealer. We issued these warrants to HCW as partial compensation for HCW's services as placement agent in connection with our private placement in November 2004. HCW acquired these warrants in the ordinary course of business. Michael Bradford exercises sole dispositive and voting control over all of the securities owned by HCW. By virtue of such control, Michael Bradford may be deemed to own beneficially the outstanding common stock and warrants beneficially owned by HCW.

(10) Consists of shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004. H.C. Wainwright & Co., Inc. received these securities as compensation for its services as placement agent in connection with our private placement in early 2004.

See also, Note 9.

- (11) Includes 16,981 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004 and 9,260 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (12) Consists of shares that could be purchased upon exercise of warrants issued in connection with our private placement in November 2004. Mr. Clarke, President of HCW, received these warrants from HCW in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them. HCW had received these securities as compensation for its services as placement agent in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them.
- (13) Consists of shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (14) Includes 16,981 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004 and 9,260 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (15) Consists of shares that could be purchased upon exercise of warrants issued in connection with our private placement in November 2004. Mr. Koch, a Managing Director of HCW, received these warrants from HCW in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them. HCW had received these securities as compensation for its services as placement agent in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them.
- (16) Consists of shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (17) Includes 1,787 shares that could be purchased on exercise of warrants issued in connection with our private placement in November 2004 and 1,500 shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (18) Consists of shares that could be purchased upon exercise of warrants issued in connection with our private placement in November 2004. Mr. Fuchs, an employee of HCW, received these warrants from HCW in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them. HCW had received these securities as compensation for its services as placement agent in the ordinary course of business and at the time of receiving the securities had no agreements or understandings, directly or indirectly, with any person to distribute them.
- (19) Consists of shares that could be purchased on exercise of warrants issued in connection with our private placement in early 2004.
- (20) Includes 94,787 shares that could be purchased on exercise of warrants issued in connection with our private placement in December 2004.

NEP Capital, LLC serves as the general partner of New England Partners Capital L.P. John F. Rousseau, Jr., Edwin Snape, David Dullum and Robert Hanks (collectively the "NEP Managing Members") are the managing members of NEP Capital, LLC. By reason of these relationships, each of NEP Capital, LLC and the NEP Managing Members may be deemed to share voting and dispositive power over the shares of our common stock owned by New England Partners Capital

L.P. Each of NEP Capital, LLC and the NEP Managing Members disclaims beneficial ownership of the shares held by New England Partners Capital L.P.

PLAN OF DISTRIBUTION

The Selling Shareholders may, from time to time, sell any or all of their shares of common stock on any 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. The Selling Shareholders may use any one or more of the following methods when selling shares:

- o ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- o 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;
- o purchases by a broker-dealer as principal and resale by the broker-dealer for its account;
- o an exchange distribution in accordance with the rules of the applicable exchange;
- o privately negotiated transactions;
- o short sales;
- o broker-dealers may agree with the Selling Shareholders to sell a specified number of such shares at a stipulated price per share;
- o a combination of any such methods of sale; and
- o any other method permitted pursuant to applicable law.

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

The Selling Shareholders may also engage in short sales against the box, puts and calls and other transactions in our securities or derivatives of our securities and may sell or deliver shares in connection with these trades.

Broker-dealers engaged by the Selling Shareholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Shareholders (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated. The Selling Shareholders do not expect these commissions and discounts to exceed what is customary in the types of transactions involved. Any profits on the resale of shares of common stock by a broker-dealer acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. Discounts, concessions, commissions and similar selling expenses, if any, attributable to the sale of shares will be borne by a Selling Shareholder. The Selling Shareholders may agree to indemnify any agent, dealer or broker-dealer that participates in transactions involving sales of the shares if liabilities are imposed on that person under the Securities Act.

The Selling Shareholders may from time to time pledge or grant a security interest in some or all of the shares of common stock owned by them and, if they default in the performance of their secured obligations, the pledgees or secured parties may offer and sell the shares of common stock from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other

applicable provision of the Securities Act amending the list of Selling Shareholders to include the pledgee, transferee or other successors in interest as Selling Shareholders under this prospectus.

The Selling Shareholders also may transfer the shares of common stock in other circumstances, in which case the transferees, pledgees or other successors in interest will be the selling beneficial owners for purposes of this prospectus and may sell the shares of common stock from time to time under this prospectus after we have filed an amendment to this prospectus under Rule 424(b)(3) or other applicable provision of the Securities Act amending the list of Selling Shareholders to include the pledgee, transferee or other successors in interest as Selling Shareholders under this prospectus.

The Selling Shareholders may, and in the view of the Securities and Exchange Commission any broker-dealers or agents that are involved in selling the shares of common stock will, 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 of common stock purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act.

We are required to pay all fees and expenses incident to the registration of the shares of common stock. We have agreed to indemnify the Selling Shareholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

The Selling Shareholders have advised us that they have not entered into any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their shares of common stock, nor is there an underwriter or coordinating broker acting in connection with a proposed sale of shares of common stock by any Selling Shareholder. If we are notified by any Selling Shareholder that any material arrangement has been entered into with a broker-dealer for the sale of shares of common stock, if required, we will file a supplement to this prospectus. If the Selling Shareholders use this prospectus for any sale of the shares of common stock, they will be subject to the prospectus delivery requirements of the Securities Act.

The anti-manipulation rules of Regulation M under the Securities Exchange Act of 1934 may apply to sales of our common stock and activities of the Selling Shareholders.

LEGAL MATTERS

The validity of the common stock offered hereby has been passed upon for Delcath by Murtha Cullina LLP, New Haven, Connecticut, counsel for Delcath.

EXPERTS

Our financial statements as of December 31, 2004 and for each of the two years in the period ended December 31, 2004 and cumulative from inception (August 5, 1988) to December 31, 2004, appearing in our Annual Report on Form 10-KSB for the year ended December 31, 2004 have been audited by Eisner LLP, independent registered public accounting firm, as set forth in their report thereon dated February 25, 2005, included therein and incorporated herein by reference. Such financial statements are incorporated herein by reference in reliance upon such report given upon the authority of such firm as experts in accounting and auditing.

WHERE CAN YOU FIND MORE INFORMATION

We file periodic reports under the Securities Exchange Act of 1934, as amended, that include information about us. We have also filed with the U.S. Securities and Exchange Commission in Washington, D.C., a registration statement on Form S-3 under the Securities Act with the respect to the shares of common stock offered by this prospectus.

This prospectus does not contain all the information set forth in the registration statement and the exhibits and schedules thereto. For further information with respect to us and the common stock, we refer you to the registration statement, the documents incorporated herein and the exhibits and schedules filed therewith. The registration statement and the exhibits forming a part thereof may be inspected without charge at the public reference facilities maintained by the SEC at 450 Fifth Street, N.W., Washington, D.C. 20549 and copies of such materials can be obtained from the Public Reference Section of the SEC at 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates. Please call the SEC at 1-800-SEC-0330 for further information regarding the public reference facilities. In addition, the SEC maintains a website that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC at <http://www.sec.gov>.

Statements made in this prospectus as to the contents of any contract, agreement or other document referred to are not necessarily complete. With respect to each such contract, agreement or other document filed as an exhibit to the registration statement, we refer you to the exhibit to the registration statement referencing the item for a more complete description of the matter involved, and each such statement is qualified in its entirety by reference thereto. You may read and obtain a copy of the registration statement and its exhibits and schedules from the SEC, as described in the preceding paragraph.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents that we have filed with the Securities and Exchange Commission are incorporated into this prospectus by reference:

1. Our Annual Report on Form 10-KSB for the fiscal year ended December 31, 2004, filed on March 21, 2005;
2. Our Current Report on Form 8-K dated March 22, 2005, filed on March 23, 2005;
3. Our Current Report on Form 8-K dated April 5, 2005, filed on April 7, 2005; and
4. The description of our common stock contained under the caption "Description of Our Capital Stock and Other Securities - Units" in the Prospectus included in the Registrant's Registration Statement on Form SB-2 (No. 333-101661), declared effective on May 15, 2003.

All documents that we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 after the date of this prospectus and prior to the filing of a post-effective amendment to the registration statement of which this prospectus is a part that indicates that all the common stock offered has been sold, or which deregisters all common stock then remaining unsold hereunder, shall be incorporated by reference into this prospectus and to be a part hereof (and of the registration statement) from the date of filing of such documents. Any statement contained in this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in any subsequently filed document which also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

To the extent that an independent auditor audits and reports on our financial statements issued at future dates and consents to the use of its reports thereon, such financial statements shall also be incorporated by reference in this prospectus (and the registration statement) in reliance upon their reports and their authority as experts in accounting and auditing.

We will provide without charge to each person, including any beneficial owner, to whom a copy of this prospectus is delivered, upon written or oral request, a copy of any and all information that has been incorporated by reference herein (other than exhibits to such information, unless such exhibits are specifically incorporated into any such information). Requests should be directed to us at 1100 Summer Street, Stamford, Connecticut 06905, Attention: Paul M. Feinstein, Chief Financial Officer. Mr. Feinstein may also be contacted at (203) 323-8668.

DISCLOSURE OF THE SEC'S POSITION ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES

Our certificate of incorporation provides that we must, to the fullest extent permitted or required by the Delaware General Corporation Law, indemnify any and all persons whom we have the power to indemnify from and against any and all of the expenses, liabilities or other matters referred to in or covered by the Delaware General Corporation Law. The indemnification provided for in our certificate of incorporation is not exclusive of any other rights to which those indemnified may be entitled under any law, agreement, vote of shareholders or disinterested directors or otherwise.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act of 1933 and is, therefore, unenforceable.

Part II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 16. Exhibits

Number	Description
3.1	Amended and Restated Certificate of Incorporation of Delcath Systems, Inc. (incorporated by reference to Exhibit 3.1 to Registrant's Quarterly Report on Form 10-QSB for the quarter ended June 30, 2004 (File No. 001-16133)).
3.2	Amended and Restated By-Laws of Delcath Systems, Inc. (incorporated by reference to Exhibit 3.2 to Amendment No. 1 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.1	Form of Underwriter's Unit Warrant Agreement (incorporated by reference to Exhibit 4.1 to Amendment No. 1 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-101661)).
4.2	Form of Warrant Agent Agreement by and between Delcath Systems, Inc. and American Stock Transfer & Trust Company, as warrant agent with respect to the 2003 Warrants (incorporated by reference to Exhibit 4.8 to Amendment No. 3 to Registrant's Registration Statement on Form SB-2 (No. 333-101661)).
4.3	Form of Warrant Agreement by and between Delcath Systems, Inc. and Whale Securities Co., L.P. (incorporated by reference to Exhibit 4.2 to Amendment No. 5 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.4	Form of Warrant Agreement by and between American Stock Transfer & Trust Company, as warrant agent, Whale Securities Co., L.P. and Delcath Systems, Inc. (incorporated by reference to Exhibit 4.3 to Amendment No. 5 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.5	Rights Agreement, dated October 30, 2001, by and between Delcath Systems, Inc. and American Stock Transfer & Trust Company, as Rights Agent (incorporated by reference to Exhibit 4.7 to Registrant's Form 8-A dated November 12, 2001 (Commission File No. 001-16133)).
4.6	Form of Warrant to Purchase Shares of Common Stock issued pursuant to the Common Stock Purchase Agreement dated as of March 19, 2004 (incorporated by reference to Exhibit 4 to Registrant's Current Report on Form 8-K dated March 19, 2004).
4.7	Form of Series A Warrant to Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K dated November 24, 2004).
4.8	Form of Series B Warrant by Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.2 to Registrant's Current Report on Form 8-K dated November 24, 2004).

Number	Description
4.9	Form of Series C Warrant to Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.3 to Registrant's Current Report on Form 8-K dated November 24, 2004).
4.10	Form of Series D Warrant to Purchase Shares of Common Stock dated as of December 7, 2004 (incorporated by reference to Exhibit 4.10 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
5	Opinion of Murtha Cullina LLP.
10.1	Common Stock Purchase Agreement dated as of March 19, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K dated March 19, 2004).
10.2	Registration Rights Agreement dated as of March 19, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.2 to Registrant's Current Report on Form 8-K dated March 19, 2004).
10.3	Common Stock Purchase Agreement dated as of November 24, 2004 by and among Delcath Systems, Inc. and the Purchasers listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K dated November 24, 2004).
10.4	Registration Rights Agreement dated as of November 24, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.2 to Registrant's Current Report on Form 8-K dated November 24, 2004).
10.5	Common Stock Purchase Agreement dated as of December 7, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Exhibit A thereto (incorporated by reference to Exhibit 10.5 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
10.6	Registration Rights Agreement dated as of December 7, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.6 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
23.1	Consent of Eisner LLP.
23.2	Consent of Murtha Cullina LLP (included in Exhibit 5).
24	Power of Attorney (incorporated by reference to Exhibit 24 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant 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 amendment to its registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Stamford, State of Connecticut this 15th day of April, 2005.

Delcath Systems, Inc.

By: /s/ M. S. KOLY

 Name: M. S Koly
 Title: President and Chief Executive Officer

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

Name	Title	
M. S. Koly -----	President and Chief Executive Officer and Director (Principal Executive Officer))))
Paul M. Feinstein -----	Chief Financial Officer (Principal Financial and Accounting Officer))))
Samuel Herschkowitz -----	Director)))
) Dated: April 15, 2005
Mark A. Corigliano -----	Director)))
Daniel Isdner -----	Director)))
Victor Nevins -----	Director)))
)))

EXHIBIT INDEX

Number	Description
3.1	Amended and Restated Certificate of Incorporation of Delcath Systems, Inc. (incorporated by reference to Exhibit 3.1 to Registrant's Quarterly Report on Form 10-QSB for the quarter ended June 30, 2004 (File No. 001-16133)).
3.2	Amended and Restated By-Laws of Delcath Systems, Inc. (incorporated by reference to Exhibit 3.2 to Amendment No. 1 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.1	Form of Underwriter's Unit Warrant Agreement (incorporated by reference to Exhibit 4.1 to Amendment No. 1 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-101661)).
4.2	Form of Warrant Agent Agreement by and between Delcath Systems, Inc. and American Stock Transfer & Trust Company, as warrant agent with respect to the 2003 Warrants (incorporated by reference to Exhibit 4.8 to Amendment No. 3 to Registrant's Registration Statement on Form SB-2 (No. 333-101661)).
4.3	Form of Warrant Agreement by and between Delcath Systems, Inc. and Whale Securities Co., L.P. (incorporated by reference to Exhibit 4.2 to Amendment No. 5 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.4	Form of Warrant Agreement by and between American Stock Transfer & Trust Company, as warrant agent, Whale Securities Co., L.P. and Delcath Systems, Inc. (incorporated by reference to Exhibit 4.3 to Amendment No. 5 to Registrant's Registration Statement on Form SB-2 (Registration No. 333-39470)).
4.5	Rights Agreement, dated October 30, 2001, by and between Delcath Systems, Inc. and American Stock Transfer & Trust Company, as Rights Agent (incorporated by reference to Exhibit 4.7 to Registrant's Form 8-A dated November 12, 2001 (Commission File No. 001-16133)).
4.6	Form of Warrant to Purchase Shares of Common Stock issued pursuant to the Common Stock Purchase Agreement dated as of March 19, 2004 (incorporated by reference to Exhibit 4 to Registrant's Current Report on Form 8-K dated March 19, 2004).
4.7	Form of Series A Warrant to Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.1 to Registrant's Current Report on Form 8-K dated November 24, 2004).
4.8	Form of Series B Warrant by Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.2 to Registrant's Current Report on Form 8-K dated November 24, 2004).
4.9	Form of Series C Warrant to Purchase Shares of Common Stock dated as of November 24, 2004 (incorporated by reference to Exhibit 4.3 to Registrant's Current Report on Form 8-K dated November 24, 2004).
4.10	Form of Series D Warrant to Purchase Shares of Common Stock dated as of December 7, 2004 (incorporated by reference to Exhibit 4.10 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).

- 5 Opinion of Murtha Cullina LLP.
- 10.1 Common Stock Purchase Agreement dated as of March 19, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K dated March 19, 2004).
- 10.2 Registration Rights Agreement dated as of March 19, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.2 to Registrant's Current Report on Form 8-K dated March 19, 2004).
- 10.3 Common Stock Purchase Agreement dated as of November 24, 2004 by and among Delcath Systems, Inc. and the Purchasers listed on Exhibit A thereto (incorporated by reference to Exhibit 10.1 to Registrant's Current Report on Form 8-K dated November 24, 2004).
- 10.4 Registration Rights Agreement dated as of November 24, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.2 to Registrant's Current Report on Form 8-K dated November 24, 2004).
- 10.5 Common Stock Purchase Agreement dated as of December 7, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Exhibit A thereto (incorporated by reference to Exhibit 10.5 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
- 10.6 Registration Rights Agreement dated as of December 7, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.6 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
- 23.1 Consent of Eisner LLP. 23.2 Consent of Murtha Cullina LLP (included in Exhibit 5). 24 Power of Attorney (incorporated by reference to Exhibit 24 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
- 10.6 Registration Rights Agreement dated as of December 7, 2004 by and among Delcath Systems, Inc. and the Purchasers Listed on Schedule I thereto (incorporated by reference to Exhibit 10.6 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).
- 23.1 Consent of Eisner LLP.
- 23.2 Consent of Murtha Cullina LLP (included in Exhibit 5).
- 24 Power of Attorney (incorporated by reference to Exhibit 24 to Registrant's Registration Statement on Form S-3 (Registration No. 333-121681)).

[LETTERHEAD OF MURTHA CULLINA LLP]

April 15, 2005

The Board of Directors
Delcath Systems, Inc.
1100 Summer Street
Stamford, Connecticut 06905

Re: Registration Statement on Form S-3 (No. 333-121681)

Dear Sirs:

We have acted as special counsel to Delcath Systems, Inc., a Delaware corporation (the "Company"), in connection with its Registration Statement on Form S-3 (No. 333-121681), as filed on the date hereof (the "Registration Statement"), for the public reoffer by certain selling stockholders of up to 3,397,909 shares (the "Secondary Shares") of Common Stock. The Secondary Shares consist of (i) 1,306,487 shares issued in connection with private placements to accredited investors in November and December 2004 (the "2004 Shares"); (ii) 2,019,925 shares (the "2004 Warrant Shares") issuable upon exercise of the Company's outstanding Series A, Series B, Series C or Series D Redeemable Common Stock Purchase Warrants issued to such investors in 2004 (the "2004 Warrants"); and (iii) 71,497 shares (the "Placement Agent Warrant Shares") issuable upon exercise of outstanding warrants issued to the placement agent in connection with the November 2004 private placement to accredited investors (the "Placement Agent Warrants").

We have examined originals or copies, certified or otherwise identified to our satisfaction of the following documents: (a) the Amended and Restated Certificate of Incorporation of the Company, as amended, in the form filed as Exhibit 3.1 to the Company's Quarterly Report on Form 10-QSB for the quarter ended June 30, 2004 (file No. 001-16133); (b) the Amended and Restated Bylaws of the Company in the form filed as Exhibit 3.2 to Amendment No. 1 to the Company's Registration Statement on Form SB-2 (No. 333-39470); (c) the resolution adopted by the Board of Directors of the Company at a meeting held on November 5, 2004; and (d) such other documents as we have considered necessary to the rendering of the opinions expressed below.

In our examination of the foregoing, we have assumed that: (a) the factual statements made therein are accurate and complete; (b) the signatures on documents and instruments

The Board of Directors
Delcath Systems, Inc.
April 15, 2005
Page 2

submitted to us as originals are authentic; and (c) documents submitted to us as certified, conformed or photostatic copies of original documents conform with the originals thereof and the originals thereof are authentic.

Based upon the foregoing, we are of the opinion that:

1. The 2004 Shares have been duly authorized and validly issued and are fully paid and nonassessable.
2. The 2004 Warrant Shares, when issued upon exercise of the 2004 Warrants in accordance with their terms, will be duly authorized, validly issued, fully paid and nonassessable.

3. The Placement Agent Warrant Shares, when issued upon exercise of the Placement Agent Warrants in accordance with their terms, will be duly authorized, validly issued, fully paid and nonassessable.

The foregoing opinions are limited to the General Corporation Law of the State of Delaware, and we do not express any opinion herein concerning any other law. Except to the extent that we have a legal duty to update this opinion based upon our discovering that facts on which we based this opinion were erroneous as of the date hereof, we assume no obligation to supplement this opinion, and with disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinions expressed herein.

This opinion is being furnished to you for filing as an exhibit to the Registration Statement and, accordingly, may not be relied upon by or quoted in any manner or delivered to any person or entity other than the Company and its stockholders without, in each instance, our prior written consent.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and to the reference to our firm appearing under the caption "Legal Matters" in the Prospectus forming part of the Registration Statement. In giving this consent, we do not admit that we are

The Board of Directors
Delcath Systems, Inc.
April 15, 2005
Page 3

within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

MURTHA CULLINA LLP

By /s/ PAUL G. HUGHES

Paul G. Hughes

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement on Form S-3 of our report dated February 25, 2005 on our audits of the financial statements of Delcath Systems, Inc. as of December 31, 2004 and for each of the years in the two-year period then ended and for the period from August 5, 1988 (inception) to December 31, 2004, which report appears in the 2004 annual report on Form 10-KSB of Delcath Systems, Inc. We also consent to the reference to our firm under the heading "Experts" in the prospectus.

/s/ EISNER LLP

Eisner LLP

New York, NY
April 14, 2005