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January 14, 2010

VIA EDGAR – CORRESPONDENCE

United States Securities and Exchange Commission
Division of Corporation Finance
100 F. Street, NE
Washington, D.C. 20549

Attention: Tim Buchmiller, Senior Attorney

Re: Delcath Systems, Inc. ("Delcath" or the "Company")
Form 10-K for the fiscal year ended December 31, 2008
Filed March 3, 2009
Form 10-Q for the fiscal quarter ended September 30, 2009
Filed October 23, 2009
File No. 001-16133

Dear Mr. Buchmiller:

This letter is being submitted in response to the Securities and Exchange Commission's letter dated December 29, 2009, regarding the Staff's review of Delcath Systems, Inc.'s Annual Report on Form 10-K for the fiscal year ended December 31, 2008 (the "*Form 10-K*") and Form 10-Q for the fiscal quarter ended September 30, 2009 (the "*Form 10-Q*"). The responses to the Staff's comments set forth below correspond to the numbers assigned to each comment in the Commission's letter of December 29, 2009.

Form 10-K for the fiscal year December 31, 2008

Item 1. Business, page 1

The Liver Cancer Market, page 2

1. We note from your disclosure on page 6 under "Our Clinical Trials" that you are currently pursuing FDA pre-market approval for the administration of melphalan with your system to treat patients suffering from metastatic melanoma that has spread to the liver. If known to you, and you believe such data is reliable, please indicate in your future filings the size of this market; i.e., the number of patients in the U.S. who could potentially be treated with your system and melphalan and that are suffering from metastatic melanoma that has spread to the liver. Expand your risk factor which currently appears at the top of page 12 as appropriate in your future filings.

In response to the Staff's comments, Delcath will clarify in its future filings, to the extent known to Delcath and based on data Delcath believes to be reliable, the number of patients in the United States with metastatic melanoma that has metastasized to the liver and that could potentially be treated with the Delcath PHP System and melphalan. Delcath will expand, to the extent it deems appropriate, its associated risk factor, which currently appears at the top of page 12 of the Form 10-K.

Our Clinical Trials, page 5

2. If such data is available to you, please disclose in your future filings whether the side-effects experienced by patients who have received treatment using your system are more or less severe, or comparable, as compared to the side-effects experienced by patients who have received chemotherapy treatments using conventional intravenous delivery methods at lower dosages. For example, while it is clear that your system is capable of removing 85% of the higher dosages of chemotherapy agents you have tested, it is not clear whether 15% of the higher dosages that remain in the circulatory system is less than the chemotherapy agents that remain in a patient's circulatory system that have received lower dosages and would therefore cause less side-effects.

In response to the Staff's comments, we will revise the disclosure referenced by the Staff above, to read as follows: "These Phase I clinical trials, which were dosage ranging studies, demonstrated that the Delcath PHP System is capable of extracting approximately 85% of the chemotherapy agent administered to the liver, which reduces the exposure of healthy tissue and organs to the effects of these chemotherapeutic agents." Further to the Staff's comments, as objective and reliable data becomes available to Delcath, Delcath will, thereafter, disclose in its filings comparable data as to the side-effects experienced by patients in its clinical trials who received treatments using the Delcath PHP System and patients who received treatments using conventional chemotherapy methods, to the extent Delcath determines that meaningful comparisons, based on objective data, can be provided.

Our Clinical Trial and Agreement with the National Cancer Institute (NCI), page 6

3. We refer to the disclosure on pages 6 and F-20 of your Cooperative Research and Development Agreement with the National Cancer Institute. Please tell us where you filed as an exhibit your agreement with the National Cancer Institute.

Delcath will file the current Cooperative Research and Development Agreement as an exhibit to its Annual Report on Form 10-K for the fiscal year ended December 31, 2009.

Research for Hepatitis Treatment, page 7

4. In your future filings, please clarify whether you anticipate that the use of your system for treating viral hepatitis would be limited to treating patients with chronic viral hepatitis or would also include those with active, but acute, forms of those diseases.

As stated in Delcath's disclosure under "Research for Hepatitis Treatment", Delcath *plans* to evaluate the feasibility of using the Delcath PHP System in administering higher doses of anti-viral drugs in the treatment of viral hepatitis. As, and to the extent Delcath undertakes such evaluations, Delcath will provide disclosure in its future filings as to the anticipated forms of viral hepatitis that may be treatable using the Delcath PHP System to the extent identified by Delcath. We respectfully submit to the Staff, that any current reference to anticipated forms of viral hepatitis that may be treatable using the Delcath PHP System would be premature. We supplementally advise the Staff that, currently, Delcath has not identified the form or forms of viral hepatitis that Delcath might target in connection with any evaluation that it may undertake, or whether such evaluation, if undertaken by Delcath, would be limited to treating patients with chronic viral hepatitis or whether it would also include patients with active, but acute, forms of those diseases.

Item 1A. Risk Factors, page 11

5. We note that you have a significant number of outstanding options and warrants, and that some of the warrants appear to have "ratchet down" provisions. In your future filings, if then material, please describe the potential dilutive effects of your outstanding options and warrants.

In future filings, Delcath will describe, to the extent material at the time of such filing, the potential dilutive effects of Delcath's outstanding options and warrants.

Item 11. Executive Compensation Directors, page 60

6. In future filings, replace vague disclosure under "Compensation Discussion and Analysis" that you have incorporated by reference from your proxy statement with meaningful information that investors can use to evaluate the compensation program for all of your named executive officers. For example, we note the disclosure on page 16 of the proxy statement that Messrs. Rifkin and Feinstein are named executive officers; however, you do not otherwise mention them in your "Compensation Discussion and Analysis." You should provide an analysis of how the compensation committee arrived at each particular level and form of compensation. For example, we note the references on pages 13 and 14 of the proxy statement to "performance" in determining certain elements of compensation. Disclose the elements of performance, both quantitative and qualitative, that the committee considered in its evaluation, and, if applicable, how they were weighted and factored into compensation decisions. As another example, we note you refer on pages 13 and 14 to "salaries paid in the marketplace to executives with similar responsibilities," "marketplace factors" and the "need to maintain a competitive total compensation value appropriate to each executive officer," however, you did not provide discussion and analysis of how the committee considered each of these factors in arriving at the amounts paid to each named executive officer.

In future filings, Delcath will provide in its "Compensation Discussion and Analysis" (CD&A) more detailed information about the material elements of Delcath's compensation of all its named executive officers so as to enable our investors to understand (and evaluate) Delcath's compensation policies and decisions regarding its named executive officers, including a description of the analysis undertaken by Delcath's Compensation and Stock Option Committee in determining the amount and form of compensation awarded to, earned by or paid to each of Delcath's named executive officer, including a description of Delcath's performance based award program and the elements and other factors considered by Delcath's Compensation and Stock Option Committee in determining whether performance based compensation was appropriate and, if so, the amount and form of such compensation.

Form 10-Q for the quarterly period ended September 30, 2009

Item 1. Condensed Financial Statements (Unaudited)

Note 8. Assets and Liabilities Measured at Fair Value, page F-10

7. We reference the disclosure that the valuation of warrant derivative liability was classified within Level 2 of the fair-value hierarchy. Please tell us how you determined that the inputs were readily observable and how you considered that the inputs to the Black-Scholes pricing model would be considered Level 3. Please refer to FASB ASC 820-10-55 and 820-10-35-39 through 55.

In connection with our response to the Staff's comments, we have assumed that the Staff intended to reference to "Level 2" in its comment, as opposed to "Level 3". Based on the foregoing assumption, Delcath determined that the warrant derivative liability should be classified within Level 2 of the fair-value hierarchy by evaluating each input for the Black Scholes model against the fair-value hierarchy criteria and using the lowest level of input as the basis for the fair-value classification. There are six inputs: closing price of Delcath stock on the day of evaluation; the exercise price of the warrants; the remaining term of the warrants; the volatility of Delcath's stock over that term; annual rate of dividends; and the riskless rate of return. Of those inputs, the exercise price of the warrants and the remaining term are readily observable in the warrant agreements. The annual rate of dividends is based on our historical practice of not granting dividends. The closing price of Delcath stock would fall under Level 1 of the fair-value hierarchy as it is a quoted price in an active market (FASB ASC 820-10-35-40). The volatility of Delcath's stock and the riskless rate of return are both Level 2 inputs as defined in FASB ASC 820-10-35-48. Since the volatility and riskless rate of return are the lowest level inputs based on the guidance provided in FSAB ASC 820-10-35, Delcath determined the warrant derivative liability is most appropriately classified within Level 2 of the fair value hierarchy.

Item 4. Controls and Procedures, page 10

8. Please revise future filings to disclose any change in your internal control over financial reporting that occurred during your last fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting. Refer to Item 308(c) of Regulation S-K.

In future filings, Delcath will disclose any change in its internal control over financial reporting that occurred during its last fiscal quarter (Delcath's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, Delcath's internal control over financial reporting.

Delcath acknowledges that: Delcath is responsible for the adequacy and accuracy of the disclosures in the Form 10-K and Form 10-Q; Staff comments or changes to disclosures in response to Staff comments do not foreclose the Commission from taking any action with respect to Delcath's Form 10-K and Form 10-Q; and Delcath may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

We appreciate your feedback on our Form 10-K and Form 10-Q. I can assure you that the management team and Board of Directors of Delcath take seriously Delcath's and its management's responsibility for the accuracy and adequacy of the disclosures included in Delcath's filings with the Commission and we stand ready to completely address the Staff's comments as discussed above. If you have further comments or questions related to our response to your letter, please call me at (212) 489-2100 (ext. 226).

Sincerely,

David A. McDonald
By: /s/ David A. McDonald
Chief Financial Officer