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

DIVISION OF
CORPORATION FINANCE

September 20, 2011

Via E-mail
Christopher P. Schnittker
Chief Financial Officer
Echo Therapeutics, Inc.
8 Penn Center
1628 JFK Blvd, Suite 300
Philadelphia, PA 19103

Re: Echo Therapeutics, Inc.
Form 10-K for the fiscal year ended December 31, 2010
Filed March 18, 2011
File No. 000-23017

Dear Mr. Schnittker:

We have reviewed your response dated September 12, 2011 and related filings and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the fiscal year ended December 31, 2010

Item 8. Financial Statements

Consolidated Balance Sheets, page F-2

1. We refer to your presentation of preferred stock as a component of stockholders' equity. Please tell us how you considered the guidance in FASB ASC 480-10-S99-3A in determining that it is appropriate to classify your preferred shares as permanent equity.

Consolidated Statements of Operations, page F-3

2. We acknowledge your response to comment 3. Please tell us in more detail about the analysis you performed in concluding that the engineering service reimbursements are revenue as opposed to an offset to research and development expense. In that regard, we see in your response to comment 8 that you describe the engineering service revenue as "reimbursement of research and development efforts."

Note 2. Summary of Significant Accounting Policies, page F-7

Licensing and Other Revenue Recognition, page F-10

3. We acknowledge your response to comment 8. Please respond to the portion of the comment requesting arrangement specific factors. In that regard, please tell us in more detail about your underlying performance requirements related to the agreements for which you determined the revenue recognition period should occur "between the initial licensing contract execution and the anticipated FDA approval date for the related product." Also, explain to us how you determined the expected timing of FDA clearance. For instance, with respect to Symphony, we see that you cannot yet conclude that FDA clearance is probable.

You may contact Leigh Ann Schultz at (202) 551-3628 or Gary Todd at (202) 551-3605 if you have questions regarding these comments. You may also contact me at (202) 551-3676 with any other questions.

Sincerely,

/s/ Gary Todd for

Brian Cascio
Accounting Branch Chief