

Amanda Ravitz
Assistant Director
Securities and Exchange Commission (Mail Stop 4561)
100 F Street, N.E.
Washington, D.C. 20549

Re: InVivo Therapeutics Holdings Corp.
Amended Registration Statement on Form S-1
Filed June 30, 2011
File No. 333-171998
Amended Annual Report on Form 10-K
Filed June 30, 2011
File No. 000-52089

Dear Ms. Ravitz:

On behalf of InVivo Therapeutics Holdings Corp. (the "Company"), we submit the following responses to the comments of the Staff of the Securities and Exchange Commission (the "Staff") as set forth in your letter dated July 15, 2011 to Mr. Frank Reynolds, the Company's Chief Executive Officer and Chief Financial Officer.

These responses set forth below have been organized in the same manner in which the Staff's comments were organized.

All responses pertaining to the Company set forth in this letter were prepared by the Company in consultation with its counsel, BRL Law Group LLC. Simultaneously with this response letter, we are filing our Amendment No. 3 to our annual report on Form 10-K (the "10-K"). In addition, we plan to file our Amendment No. 4 to our registration statement on Form S-1 (the "S-1") on Tuesday, July 19.

Audited Financial Statements, page F-1

Note 18. Restatement, page F-23

COMMENT 1. *We see your disclosure in the last sentence on page F-23 indicating that while you believe your original accounting complied with GAAP, after discussions with the SEC staff you concluded that your allocation method was not consistent with current practice. On the call with the company on June 23, 2011, we also questioned whether the allocation method you previously applied was consistent with the allocation concepts provided in GAAP as demonstrated in the guidance provided in several areas of GAAP which have consistently restricted the amounts allocated to the amount of proceeds. To avoid providing investors with incomplete and confusing information, please revise this note in this filing, and any further amendments to your Form 10-K, to also disclose that information. Otherwise, revise the note to simply describe the accounting you previously applied and the new accounting you adopted to comply with GAAP.*

RESPONSE:

In response to the Staff's comment, the Company has revised this Note 18 in the 10-K and also similarly revised its disclosure in the S-1. The Company will revise the Note in its future filings with the Commission accordingly.

If you have any questions with regards to these responses, need further supplemental information or would like to discuss any of the matters covered in this letter, please contact the undersigned at (617) 475-1520 or Thomas Rosedale of BRL Law Group LLC at (617) 399-6935.

Very truly yours,

/s/ Frank M. Reynolds

Frank M. Reynolds

Copy to: Thomas B. Rosedale