



DIVISION OF
CORPORATION FINANCE

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

January 27, 2012

Via E-Mail

Prabhavathi Fernandes, Ph.D.
President and Chief Executive Officer
Cempra Holdings, LLC (to be converted to Cempra, Inc.)
6340 Quadrangle Drive, Suite 100
Chapel Hill, North Carolina 27517-8149

**Re: Cempra Holdings, LLC
Registration Statement on Form S-1
Amendment No. 3 filed January 13, 2012
Amendment No. 4 filed January 17, 2012
File No. 333-177261**

Dear Dr. Fernandes:

We have reviewed your amendments filed on January 13, 2012 and January 17, 2012 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 by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

FORM S-1

Capitalization, page 40

1. Please demonstrate to us how the total shareholders' equity (deficit) in the pro forma column of \$5,756,000 reflects actual shareholders' equity (deficit) adjusted for the conversions of the preferred shares and the August 2011 Notes.

Dilution, page 42

2. Please explain to us how you computed the following per share amounts: historical net tangible book value of \$(17.35) per share, increase for conversion of convertible preferred shares of \$16.14 per share, increase for conversion of August 2011 Notes of \$0.78 per share and pro forma as adjusted net tangible book value per share after the

offering of \$3.97 per share. In particular, demonstrate how the calculation of historical net tangible book value of \$(17.35) per share is consistent with the 533,839 shares outstanding at September 30, 2011. Also, explain why the pro forma net tangible book value before the offering of \$(9.3) million and the pro forma as adjusted net tangible book value after the offering of \$67.8 million differ from the corresponding amounts on page 40.

Selected Condensed Consolidated Financial Data, page 44

3. Please revise the number of pro forma shares used in the computation of basic and diluted loss per share for the nine months ended September 30, 2011 to agree with the corresponding number of pro forma shares on page F-4.

Critical Accounting Policies and Estimates
Share-Based Compensation, page 51

4. Please refer to prior comment one. You indicate that the increase in fair value per share from \$8.46 per share at September 30, 2011 to the current estimated midpoint of the IPO pricing range of \$12.00 per share was due to the elimination of the marketability or illiquidity discount and the absence of superior rights and preferences implicit in the preferred shares. Please quantify the impact on your valuation from each of these factors. Also, explain the difference, if any, between the 10% discount for lack of marketability, reflected in your September 30, 2011 contemporaneous valuation, and the marketability or illiquidity discount, eliminated from the current estimated midpoint of the IPO pricing range. In addition, explain how the elimination of the superior rights and preferences implicit in the preferred shares was reflected in your September 30, 2011 contemporaneous valuation.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Act of 1933 and all applicable Securities Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;

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- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Frank Wyman, Staff Accountant, at (202) 551-3660 or Lisa Vanjoske, Assistant Chief Accountant, at (202) 551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact John Krug, Senior Counsel, at (202) 551-3862, Dan Greenspan, Branch Chief, at (202) 551-3623, or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel S. Greenspan for

Jeffrey Riedler
Assistant Director

cc: Alexander M. Donaldson, Esq.
Wyrick Robbins Yates & Ponton LLP
4101 Lake Boone Trail, Suite 300
Raleigh, North Carolina 27607