



DIVISION OF
CORPORATION FINANCE

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

June 12, 2014

Via e-mail

Alain Castro
Chief Executive Officer
Ener-Core, Inc.
9400 Toledo Way
Irvine, California 92618

**Re: Ener-Core, Inc.
Registration Statement on Form S-1
Filed May 16, 2014
File No. 333-196046**

Dear Mr. Castro:

We have limited our review of your registration statement to those issues we have addressed in our 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. Where 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.

Calculation of Registration Fee Table

1. The company should use a good-faith estimate to register the maximum amount of shares that could be issued upon conversion of the notes. If that estimate is insufficient, the company must file a new registration statement to register for resale additional shares. Rule 416 does not permit you to register an indeterminate amount of common stock to be issued upon conversion formula based on fluctuating market prices. Please refer to Securities Act Rules Question 213.02 of the Division's Compliance and Disclosure Interpretations found on the Commission's web site.

Prospectus Summary, page 1

2. Regarding the disclosure on page 3, please explain why the number of shares of common stock that will be outstanding immediately after this offering is based on 72,461,851

shares of your common stock outstanding as of April 16, 2014 and assumes full conversion of the Notes but excludes the shares underlying the warrants.

Selling Stockholders, page 20

3. Please revise to clarify the manner in which the number of shares of common stock owned prior to the offering was determined for the selling stockholders who participated in the April 15, 2014 private placement. We note your statement that the number of shares that will be issued to purchasers in the April 15, 2014 private placement may vary with changes to the Conversion Price and Exercise Price.
4. Please clarify the manner in which the number of shares of common stock to be sold pursuant to this prospectus by each stockholder was calculated. While you indicate that you have included 8,629,243 shares for sale by these stockholders as a group, it is unclear in this table how those 8,629,243 shares are distributed in the third column.

Description of Securities, page 67

Senior Secured Convertible Notes, page 68

Conversion, page 68

5. You state here that the conversion price of your senior secured convertible notes is subject to “full ratchet” anti-dilution provisions. We also note your disclosure on page 18. You do not discuss fluctuations based on market price here, but state elsewhere in your prospectus that the conversion price of your convertible notes has been affected by a decline in the market price of your stock, and state on page that the conversion price applicable to each installment period is based on the market price of your common stock prior to each such installment date. Please clarify how the conversion price of your convertible notes, and exercise price of your warrants, may be adjusted, as well as the interplay between your full ratchet anti-dilution provisions and the market based adjustment provisions.

Exhibit 5.1

6. Please have counsel revise their legal opinion to refer to the shares issued in November 2013, rather than November 2014. Please also have counsel revise their opinion with regard to the November Shares to reflect that these shares have already been issued.

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;
- 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.

Please contact Leland Benton at (202)551-3791 or Craig Slivka at (202)551-3729 with any other questions.

Sincerely,

/s/ Craig Slivka, for

Pamela Long
Assistant Director

cc: Francis Chen, Esq. (*via e-mail*)
LKP Global Law, LLP