

Mail Stop 6010

November 24, 2006

Stanley C. Erck
Chief Executive Officer
Iomai Corporation
20 Firstfield Road, Suite 250
Gaithersburg, Maryland 20878

**Re: Iomai Corporation
Registration Statement on Form S-1
Filed November 16, 2006
File No. 333-138768**

Dear Mr. Erck:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Selling Stockholders, page 6

1. Please identify which of the selling security holders, if any, are either broker-dealers or affiliates of a broker-dealer. For example, it appears that ETP/FBR Venture Capital II may be a broker-dealer or affiliate.
2. Please note that if any selling security holder is a broker-dealer, the prospectus must state that the seller is an underwriter. The only exception to this rule is if the broker-dealer received the securities as compensation for underwriting activities.

3. If a selling security holder is an affiliate of a broker-dealer, the prospectus must state that:

- the selling security holder purchased in the ordinary course of business; and
- at the time of the purchase of the securities to be resold, the selling security holder had no agreement or understanding, directly or indirectly, with any person to distribute the securities.

If a selling security holder is an affiliate of a broker-dealer and you are not able to make these statements in the prospectus, the prospectus must state that the selling security holder is an underwriter. Please revise the prospectus as appropriate.

Signatures, page II-5

4. We note the filing does not include the signature of your controller or principal accounting officer. Please include this signature in an amended Form S-1. If Russell P. Wilson, the CFO, also serves as the controller or principal accounting officer, his signature should be captioned as such in your amended filing. See Instructions 1 and 2 to the Signatures section of Form S-1.

* * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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 the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

Please contact Greg Belliston at (202) 551-3861 or me at (202) 551-3715 with any questions.

Sincerely,

Jeffrey P. Riedler
Assistant Director

cc: Paul M. Kinsella
Ropes & Gray LLP
One International Place
Boston, MA 02110-2624