

June 24, 2008

Mail Stop 6010

Edwin L. Lewis
General Counsel
GT Solar International, Inc.
243 Daniel Webster Highway
Merrimack, New Hampshire 03054

**Re: GT Solar International, Inc.
Amendment No. 3 to Registration Statement on Form S-1
Filed June 6, 2007
File No. 333-142383**

Dear Mr. Lyman:

We have reviewed your filing and have the following 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.

Risk Factors, page 8

We face particular commercial, jurisdictional and legal risks associated with our business in China, page 13

1. We note your new disclosure in the last paragraph on page F-29 regarding the increase in your tax rate for your Chinese subsidiary. As much of your sales are in China, please tell us why you have not disclosed this increase in your risk factors and why you have not identified this increase as a material trend in your Management's Discussion and Analysis section.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 35

Critical Accounting Policies and Significant Accounting Estimates, page 39

Stock compensation, page 42

2. We note your response to prior comment 20 in our letter dated June 6, 2008. Please expand to provide a discussion of the primary factors contributing to any significant difference between the expected offering price and the fair value assigned to your common shares for purposes of measuring stock-based compensation.

Statement of Policy, page 107

3. We note your response to prior comment 17. Please revise your disclosure to provide the information you describe in the first paragraph of your response to this comment.

Exhibits

4. We note your response to prior comment 6. Please tell us why you believe you are not substantially dependent on your contracts with Jiangxi LDK PV Silicon Technology Company and DC Chemical Co. Specifically, tell us whether these contracts are scheduled to be delivered in the near future and how likely it is that you would be able to redeploy the products from these particular contracts if such contracts were cancelled in the near term.

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;
- 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.

You may contact Lynn Dicker at (202) 551-3616 or in her absence, Gary Todd at (202) 551-3605 if you have questions regarding comments on the financial statements and related matters. Please contact Jay Mumford at (202) 551-3637 or me at (202) 551-3444 with any other questions.

Sincerely,

Perry Hindin
Special Counsel

cc (via Fax): Eva Davis, Esq.
Dennis M. Myers, Esq.