



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-7010

DIVISION OF
CORPORATION FINANCE

November 29, 2006

Mail Stop 7010

By U.S. Mail and facsimile to (212) 930-9725

Csaba Toro
Chief Executive Officer
Solar Thin Films, Inc.
25 Highland Blvd.
Dix Hills, New York 11746

**Re: Solar Thin Films, Inc.
Amendment No. 1 to Registration Statement on Form SB-2
Filed November 13, 2006
File No. 333-136060**

**Information Statement on Schedule 14C
Filed July 27, 2005
File No. 001-13549**

**Form 10-QSB for the period ended June 30, 2006
Filed October 26, 2006**

**Current Report on Form 8-K
Filed July 17, 2006**

Dear Mr. Toro:

We have reviewed your filings and have the following comments. 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.

Registration Statement on Form SB-2
General

1. We note that you have 26,031,354 shares of common stock outstanding as of November 6, 2006. Please provide us with a written analysis of the number of shares of common stock currently outstanding that are held by individuals or entities other than your affiliates, the investors whose shares are being registered

under this registration statement, the affiliates of such investors, or any person with whom any such investor has a contractual relationship regarding any of the transactions under which securities were issued to such investors. Do not include any shares underlying any convertible securities, options, or warrants in calculating this number. In addition, tell us the percentage of this number represented by the number of shares underlying convertible securities that are being registered pursuant to this registration statement. Revise your prospectus to disclose this calculation. We may have additional comments upon review of your response.

2. We note reference to Securities Act Rule 416 in note 1 of the fee table and note 3 of your selling shareholder discussion on page 14, as well as the statement in note 1 of the fee table and the asterisked information in the selling shareholder discussion that you are registering an “indeterminate number of shares issuable upon conversion of the debentures and exercise of warrants.” Please note that because you are issuing shares under a conversion formula based in part on fluctuating market prices, you may not rely on Rule 416, but must instead register for resale the maximum number of shares needed in your good faith estimate.

As such, please delete reference to Rule 416. In addition, please tell us why you believe 13,987,500 shares represents a good faith estimate of the number of shares issuable upon application of the floating conversion rate, which only appears to apply to some of the notes issued in your September 22, 2005, transaction and which are subject to a \$.40 conversion price floor. In addition, we note that your shareholders have approved a 1:1.6 reverse-split in conjunction with their approval of an increase in the number of authorized shares. Refer to Securities Act Sections, paragraph 3S and Securities Act Rules, paragraph 2S in the March 1999 supplement to our Manual of Publicly Available Telephone Interpretations.

3. We note your response to comment 3 of our letter dated August 23, 2006. Please revise the cover page and throughout your prospectus, as applicable, to indicate that you are registering for resale shares underlying convertible notes, rather than debentures.
4. Please update your disclosure to the latest practicable date throughout your prospectus. For instance, we note reference to the personal guarantees of your former CEO, Robert Rubin, of the March 2006 Notes on page 3 and the September 2005 Notes on page 4.

Selling Stockholders, page 13

5. We note your response to prior comments 4 and 5 of our letter dated August 23, 2006. Please identify by footnote which selling shareholders are affiliates of broker-dealers and disclose that each confirmed it purchased the shares in the ordinary course of business and had no agreement or understanding to distribute the securities.
6. We note your response to comment 6 of our letter dated August 23, 2006. The aggregate number of shares included in the prospectus column appears to equal 21,996,700, rather than the 22,046,700 shares being registered. Please revise as appropriate.
7. We note your statement in footnote 4 that the table assumes all registered shares will be sold. Please revise your table to account for the total shares held or issuable to the Group A selling shareholders that are not included in the prospectus.

Financial Statements

General

8. Please include interim financial statements for the period ended September 30, 2006. Please similarly update your financial information throughout the filing. See Item 310(g) of Regulation S-B.

Condensed Consolidated Balance Sheet, page F-1

9. Please disclose the amount of your allowance for doubtful accounts on the face of the balance sheet or in a footnote.

Note 3 – Property, Plant and Equipment, page F-11

10. Please disclose the range of useful lives for each category of property, plant and equipment you have presented.

Note 7 – Private Placement of Convertible Notes, page F-12

11. We have reviewed your response to prior comment 22. Your response states that note holders have the option to convert their notes to your common stock at an amount equal to the lower of 50% of your fair market value or \$.40 per share. This indicates that the conversion price could be lower than \$.40 per share which is not consistent with your disclosures. Please tell us what consideration was given to SFAS 133 and EITF 00-19 in determining the appropriate accounting for the conversion feature.

12. Please provide us with your detailed calculations for computing the amounts allocated to the beneficial conversion feature, warrants issued, and corresponding debt discount related to your convertible notes issued in March 2006 and June 2006.
13. We have reviewed your response to prior comment 23. Regarding your Series B-4 preferred stock, it is not clear how you determined equity classification was appropriate, since you currently do not have a sufficient number of underlying authorized and unissued shares of common stock to settle the contracts. Please advise. See paragraph 19 of EITF 00-19. In addition, your response does not address all of the criteria included in paragraphs 12 to 32 of EITF 00-19 in determining the appropriate accounting for the conversion features included in your convertible preferred stock. Please expand the analysis that you have provided to refer to all of the criteria.

Form 10-QSB for the period ended June 30, 2006

14. Please address the above comments in your interim filings as well.

Current Report on Form 8-K filed July 17, 2006
Pro Forma Consolidated Balance Sheet, page F-22

15. We have reviewed your response to prior comment 26. Please revise pro forma adjustment (4) to more clearly explain what the adjustment of \$2,879,000 to additional paid-in-capital and accumulated deficit relates to. Please also disclose how this amount was calculated.

Closing Comment

16. Please also review the representations requested on pages 6-7 of our letter dated August 23, 2006, and provide these representations in the form requested at the time you request acceleration of effectiveness of the Form SB-2. Please review the representations requested on page 5 of our letter dated June 9, 2006, and provide these representations in the form requested prior to the date you mail a definitive information statement on Schedule 14C to your stockholders.

Csaba Toro
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You may contact Jeff Gordon, Staff Accountant, at (202) 551-3866 or Nudrat Salik, Senior Staff Accountant, at (202) 551-3692 in you have questions regarding comments on the financial statements and related matters. Please contact Matt Franker, Staff Attorney, at (202) 551-3749 or me, at (202) 551-3767 with any other questions.

Sincerely,

Jennifer R. Hardy
Branch Chief

cc: Richard A. Friedman
Stephen M. Fleming
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