

July 27, 2006

Michael J. Ahearn, CEO
First Solar, Inc.
4050 East Cotton Center Boulevard
Building 6, Suite 68
Phoenix, Arizona 85040

Re: First Solar, Inc.
Form S-1
File No. 333-135574
Filed June 30, 2006

Dear Mr. Ahearn:

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 supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Prospectus

1. Please confirm that any preliminary prospectus you circulate will include all non-Rule 430A information. This includes the price range and related information based on a *bona fide* estimate of the public offering price within that range. Also note that we may have additional comments after you include this information and all exhibits to the registration statement.

2. Please avoid reliance on defined terms like those in parentheses and quotation marks on page 1. If the terms are clear in context, the definitions are not necessary. If the terms are not clear in context, please revise to clarify.
3. Please replace technical, industry terms in the forepart of your document with concrete, everyday words. For example, we note your reference to “nameplate power,” “Theory of Constraints,” “Six Sigma,” “Robust Engineering,” “feed-in tariffs” and “net metering.” In other sections of your document, ensure that the meaning of the terms you use is clear; for example, we note your use of unclear technical terms in the section captioned “Challenges Facing the Photovoltaic Industry” on page 48.

Industry and Market Data, page 2

4. Risk Factors should immediately follow a one-page prospectus cover or the prospectus summary. Please relocate the text on page ii to a more appropriate section of your document.
5. Please tell us whether all data you cite is publicly available. Please also tell if you commissioned any of the data or if it was prepared for use in this registration statement.

Prospectus Summary, page 1

6. The introductory paragraph to your summary states that the summary is not complete. A summary, by its very nature, does not and is not required to contain all of the detailed information that is in the prospectus. However, if you have elected to include a summary in your prospectus, it must be complete. Do you mean to say that, because this is a summary, it may not contain all of the information that is important to your investors? Delete the reference to an incomplete summary from your prospectus.
7. Please avoid repeating text in the summary from other sections in your document.
8. Please highlight that substantially all of your sales have been to companies headquartered in Germany as mentioned on page 10.

First Solar, page 1

9. Please provide us independent, objective support for the statement in the first sentence.
10. Please balance your disclosure of your 2005 gross margin with equally prominent disclosure of your lower first quarter margin and your net loss.
11. Please file as exhibits the long-term supply contracts mentioned here or tell us why you believe they need not be filed.
12. With a view toward balancing the disclosure about the contracts, please tell us:
 - whether you will receive the revenue in equal amounts each year,
 - the terms under which the contracts may be terminated, and
 - whether the contracts will provide you with a net profit.

Competitive Strengths, page 2

13. Please reconcile the fourth bullet point with the risk factor beginning at the bottom of page 9.

Risk Factors, page 7

Our Failure to Protect our Intellectual Property, page 14

14. With a view toward disclosure, please tell us the percentage of your business derived from patents expiring in the near future.

Environmental Obligations...., page 16

15. If material, discuss environmental or health risks related to solar panels damaged by accident during shipment or installation, or by other causes like hail, windstorm, earthquakes and fire.

Use of Proceeds, page 21

16. Please clarify what you mean by “system development,” and disclose the approximate amount to be spent for the development.

Capitalization, page 22

17. Revise to remove the caption relating to cash and cash equivalents from your presentation of capitalization.

Dilution, page 23

18. If material, also present dilution figures that assume exercise of outstanding options.

Management’s Discussion and Analysis of Financial Condition and Results of Operations, page 27

Overview, page 27

19. Please quantify the cost reductions you must achieve to reach your goal of being competitive on a non-subsidized basis.

Financial Operations Overview, Net Sales, page 28

20. We note that you entered into long-term sales contracts with your six largest customers. Since these agreements are expected to have a material impact on your results of operations and liquidity, Management Discussion and Analysis should describe and quantify the known or expected impact the agreements will have on your financial statements. Specifically:
- Please revise MD&A to discuss the potential impact upon revenues, operating results and cash flows, for the decline in sales prices of 6.5% per year under the agreements. Explain how your cash flow will be effected if the fixed costs increase over the next six years.
 - Revise to disclose your commitments for capital expenditures (i.e. the cost to complete the qualification of the Ohio expansion and the German plant,

building a manufacturing plant in Asia, and significant increases in research and development) needed to satisfy the terms of the agreements.

- Revise to describe the conditions of termination under the agreements. Quantify the amount of termination fees you would potentially have to pay.
- We note that your customers are entitled to certain remedies if you are in breach of the agreements. Please explain in greater detail these remedies and the potential impact on your results of operations or liquidity.

21. Please clarify the extent to which you must improve current watts per module under the long-term contracts.

Fiscal Years Ended December 31, 2005 and December 25, 2004, page 37

22. Here, and on page 39, please separately quantify the extent to which revenue changes resulted from changes in volume, Watts per module and price.

Selling, general and administrative, page 40

23. Please describe the nature of the settlement.

Liquidity and Capital Resources, page 41

24. Revise to define the financial and other covenants that you are required to maintain under your credit facilities. Our concern is that the reader is unable to determine the degree to which you were not in compliance with these covenants.

Contractual Obligations, page 43

25. We note that your contractual obligation table only includes the portion of your recorded purchase commitments that are firm, non-cancelable and unconditional. Please tell us how this complies with the guidance in Item 303 of Regulation S-K and FR 67; *Disclosure in Management's Discussion and Analysis about Off-Balance Sheet Arrangements and Aggregate Contractual Obligations*. Revise or advise.

26. In this regard, please reconcile the purchase obligations of \$77.6 million included in the table on page 43, with the \$36.2 million purchase commitments disclosed in Note 8, on page F-17.
27. Please clarify how the amounts in footnote one affect the numbers in each column of the table.

Debit and Credit Sources, page 43

28. Please clarify the identity of the entities you name. For example, is First Solar Property LLC your wholly owned subsidiary?

Business, page 52

29. Please describe your development during the last five years. We note for example, the transactions mentioned in Note 9 on page F-18.

Competitive Strengths, page 52

30. Tell us the basis for your claim comparing your modules to crystalline silicon solar modules in *Favorable system performance*.

Strategies, page 53

31. In *Penetrate key markets rapidly*, please describe the “certain incentives.”
32. Please disclose the status of the new customer relationships mentioned in the last sentence of the first bullet point. When were negotiations started? What hurdles remain? Also clarify whether you will need additional production capacity to satisfy these potential new contracts.
33. Please clarify why production reduces the efficiency of research cells as mentioned in the penultimate bullet point.

34. Please disclose the date of the recent California contract mentioned in the last bullet point. Also disclose the material terms, including termination provisions and when you will receive revenue from the contract.

Products, page 54

35. In *Recycling Program*, please clarify whether this program is designed to address governmental requirements.

Customers, page 57

36. Please identify your principal customers. For example, we note customer concentration information in Note 15 to the financial statements.

Government Subsidies, page 57

37. In an appropriate section of your disclosure, please explain the modifications to regulations and policies that you mention in the last risk factor on page 15.

Competition, page 60

38. Please clarify how the performance criteria you discuss throughout your prospectus compare to your competition. For example, how does the 1% semiconductor use mentioned on page 62 compare to thin film competitors? What is the size of your product compared to competitors' products? How does your \$1.59 per Watt compare to \$0.09 per kWh mentioned on page 49?
39. Please expand your disclosure to include competitive conditions with other thin-film solar technologies and producers. For example, we note other semiconductor materials are in use, and alternative formats, such as flexible panels, are available.

Environmental, page 61

40. We note your disclosure regarding significant costs on page 16. Please provide the disclosure required by the last sentence of Regulation S-K Item 101(c)(1)(xii).
41. Please reconcile your statement regarding substantial compliance with the information at the top of page F-18.

Employees, page 61

42. Please update the December 2005 disclosure.

Executive Officers and Directors, page 62

43. Please identify the chairman of the board of directors.

Compensation Committee Interlocks and Insider Participation, page 64

44. Please note that Regulation S-K Item 402(j) requires that this information be disclosed for the last completed fiscal year. Please revise your document accordingly.

Executive compensation, page 64

45. Please tell us why the information in the summary compensation table does not match the information in the option grants table.
46. Disclose the basis for the figure shown in the column labeled *Grant Date Present Value* in the Options/SAR Grants table. Also, clarify whether this is per share figure. See Instruction 9 to Item 402(c).
47. Disclose the basis for the figures shown in the Values for Unexercised in-the-money Options at Fiscal Year end.
48. Please disclose your plans to issue options upon the “consummation of this offering” as stated in footnote (9) on page 69. Also, in an appropriate section of your document, disclose the terms of the option grants you mention in

penultimate bullet point on page 4; include disclosure of when the options will be exercisable.

Employment/Severance Agreements, page 66

49. Please file as exhibits all compensation and employment agreements with management. For example, we note ancillary agreements with Mr. Hambro mentioned here that are not listed in the exhibit index. See Regulation S-K Item 601(b)(10)(iii).
50. Please disclose the employment agreements or understandings with Mr. Ahearn, including any understandings related to his ownership position.
51. Please provide in the prospectus all disclosure necessary to understand your existing disclosure without reference to definitions in other documents.

Principal and Selling Stockholders, page 68

52. Please revise to explain the relationship between the offering price and the percentage ownership position of former JWMA partners.
53. Please disclose the transactions in which of the selling holders' securities were acquired, including resulting from the JWMA dissolution. Include the date of the acquisition and the consideration paid.
54. With respect to the table, it is unclear why 1,062,643 unexercised options would be treated as outstanding stock for each stockholder. Please advise or revise.
55. Please identify the individuals who beneficially own the shares held in the Estate of John T. Walton.
56. Please include a row in the table for each individual named in the summary compensation table.
57. Please reconcile the 6 persons mentioned in the last row of the table with the number of individuals mentioned in the table on page 62.

Certain Relationships and Related Party Transactions, page 70

Michael J. Ahearn, CEO
First Solar, Inc.
July 27, 2006
Page 10

- 58. Please fully disclose the terms of the transactions in this section. For example, please disclose the amount of the notes, discounts and fees, and the conversion rate.
- 59. Please file the related party agreements mentioned in this section as exhibits to the registration statement.
- 60. We note the reference to several borrowings and contributions involving JWMA mentioned at the bottom of page 41. We also note the debt mentioned on page F-14. Please tell us why you have not described each transaction in this section.

Description of Certain Indebtedness, page 71

- 61. Please tell us the authority by which you may qualify your disclosure by reference as you do in the first sentence.

Description of Capital Stock, page 72

- 62. Please disclose the number of holders of your common equity.
- 63. Please describe and quantify your repurchase obligation mentioned in the second paragraph of Note 9 on page F-18.

Shares Eligible for Future Sale, page 74
Stockholders Agreement, page 75

- 64. Please describe the registration rights mentioned in this section.

Underwriting, page 79

- 65. Please provide more specific information regarding the relationships mentioned in the last full paragraph on page 82.

Financial Statements – Page F-1

66. Consideration should be given on an ongoing basis to the updating requirements of Rule 3-12 of Regulation S-X. An updated accountant's consent should be included with any amendment to the filing.

Note 2. Summary of Significant Accounting Policies, page F-7

Product warranties, page F-8

67. We note that you provide a 5-year warranty for defects and a 25-year power output warranty, both of which may be transferred from the original purchaser to a subsequent purchaser. Please respond to the following questions:
- Tell us how you estimate warranty costs at the time of delivery considering your limited operating history. We specifically refer to the disclosure on page 7, which states "our thin film technology and solar modules do not have sufficient operating history to confirm how our solar modules will perform over their estimated 25 year useful life."
 - Reconcile the disclosure on page F-8, which states you provide a 25-year power output warranty with the discussion on pages 13 and 55, which indicate a ten-year and twenty-five year warranty against declines of more than 10% and 20% of their initial nameplate power output ratings.
 - We note that you reduced your estimate of your product warranties by \$1.0 million for the year ended December 31, 2005, due to the reductions in your manufacturing cost achieved during the year. Please explain in greater detail why you believe the reduction was appropriate. Cite the accounting literature upon which you relied.

Revenue Recognition, page F-9

68. We note that your products are sold to solar project developers and system integrators who resell your solar modules to end-users. Please tell us and revise the filing to disclose the payment terms, rights of return, exchange, or other significant matters with the resellers and how you account for such obligations. Please also discuss any repurchase arrangement or post shipment obligations you have with these customers. Also explain if there are any customer acceptance provisions. Refer to SAB 104 and SFAS 48 in your response.
69. In this regard, we have the following comments regarding your revenue recognition for the units sold under your long-term sales agreements:

- Please revise the filing to describe the significant terms of these agreements. Specifically identify any rights of return, exchange, or repurchase arrangements included in these agreements and how your default under these arrangements would impact or alter these rights. Refer to paragraph 6-8 of SFAS 48 in your response.
- Tell us your consideration of whether the requirement under the supply contracts to meet or exceed a specified minimum average number of Watts per module constitutes a revenue-generating activity and therefore might establish a deliverable in a multiple-deliverable arrangement subject to the accounting requirements of EITF 00-21.
- We may have further comment based on your response.

Note 6. Debt, page F-14

Long-term debt, page F-15

70. We note that on May 10, 2006 these convertible notes were converted into 878,651 shares of common stock under a separate conversion agreement and not under the terms of the original note agreement. Please tell us in detail the terms of separate conversion agreement, including the price at which the notes were converted and how you accounted for this conversion such that you anticipate recording a loss on extinguishment of the notes. Please also revise the filing to include this information.

Note 10. Stock Options, page F-18

71. Provide us with an itemized chronological schedule detailing each issuance of your common shares and stock options since July 2005 through the date of your response. Include the following information for each issuance or grant date:
- Number of shares issued or issuable in the grant
 - Purchase price or exercise price per share
 - Any restriction or vesting terms
 - Management's fair value per share estimate
 - How management determined the fair value estimate
 - Identity of the recipient and relationship to the company
 - Nature and terms of any concurrent transactions with the recipient
 - Amount of any recorded compensation element and accounting literature relied upon to support the accounting.

In the analysis requested above, highlight any transactions with unrelated parties believed by management to be particularly evident of an objective fair value per

share determination. Please provide us with a chronological bridge of management's fair value per share determinations to the current estimated IPO price per share. Also, indicate when discussions were initiated with your underwriter(s) about possible offering price ranges. We will delay our assessment of your response pending inclusion of the estimated IPO price in the filing.

Recent Sales of Unregistered Securities, page II-2

72. Please ensure that you have provided all disclosure required by Regulation S-K Item 701. For example, we note that you do not appear to have discussed your February 2006 conversion to a corporation, the transaction in the last paragraph is missing the disclosure required by Item 701(d), and the applicability of your reference to section 3(h) is unclear.

Exhibits, page II-2

73. Please file all exhibits required by Regulation S-K Item 601. For example, we note the supply contracts mentioned on pages 9 and 44, the agreements mentioned on page 71, the deposit agreement mentioned in the last paragraph of Note 5 on page F-14, and the waiver mentioned at the top of page F-16.

Item 17 Undertakings, page II-3

74. Please include the undertakings required by Regulation S-K Items 512(a)(5)(ii) and 512(a)(6). See Rule 430C(d) and Rule 424(b)(3).

* * * * *

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 Kevin Kuhar at (202) 551-3662 or Angela Crane at (202) 551-3554 if you have questions regarding comments on the financial statements and related matters. Please contact Alan Morris at (202) 551-3601 or me at (202) 551-3617 with any other questions.

Michael J. Ahearn, CEO
First Solar, Inc.
July 27, 2006
Page 15

Sincerely,

Russell Mancuso
Branch Chief

cc. John T. Gaffney (Cravath Swaine)
VIA TELEFAX (212) 474-3700