



DIVISION OF  
CORPORATION FINANCE

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

November 10, 2010

Magnus Ryde  
Chief Executive Officer  
DayStar Technologies, Inc.  
1010 South Milpitas Boulevard  
Milpitas, California 95035

**Re: DayStar Technologies, Inc.  
Registration Statement on Form S-3  
Filed October 14, 2010  
File No. 333-169945**

Dear Mr. Ryde:

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.

1. We note your disclosure on page 4 regarding the termination of your Newark, California lease and your inability to cure alleged defaults under the lease. Please provide us with an analysis supporting your determination that you are eligible to use Form S-3. Refer to General Instruction I.A.5 of Form S-3.

Selling Stockholders, page 11

2. Given the nature and size of the transaction being registered, please provide a legal analysis supporting your determination that this transaction is appropriately characterized as a transaction that is eligible to be made in reliance on Rule 415(a)(1)(i).
3. We note your disclosure in footnote 10 that selling stockholder Dynamic Worldwide Solar Energy, LLC has the right to acquire the shares it is offering for resale upon

conversion of an outstanding note and upon exercise of outstanding warrants. Given your statement that Dynamic is not deemed to own those shares as of the date of the prospectus pursuant to rule 13d-3(d)(1), please advise us of your basis for concluding that it is appropriate to register the resale of those shares at this time. Please also expand your disclosure on page 14 to describe any material relationship with Dynamic that you currently have or have had within the past three years.

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.

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You may contact Aslynn Hogue at (202) 551-3841 or Mary Beth Breslin, Senior Attorney, at (202) 551-3625 with any questions.

Sincerely,

Russell Mancuso  
Branch Chief

cc (by facsimile):     Stephen T. Adams, Esq. — Greenberg Traurig, LLP