



DIVISION OF
CORPORATION FINANCE

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

August 13, 2015

Via E-mail

Shaker Sadasivam
President and Chief Executive Officer
SunEdison Semiconductor Limited
11 Lorong 3 Toa Payoh
Singapore 319579

**Re: SunEdison Semiconductor Limited
Form 10-K for the Fiscal Year Ended December 31, 2014
Filed March 2, 2015
File No. 1-36460**

Dear Mr. Sadasivam:

We have limited our review of your filing to your contacts with countries that have been identified as state sponsors of terrorism, and we have the following comments. Our review with respect to this issue does not preclude further review by the Assistant Director group with respect to other issues. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

General

1. You state on page 4 that Samsung Electronics Co., Ltd. accounted for 19% of your net sales to non-affiliates in 2014. We are aware of publicly available information indicating that Samsung Electronics Co., Ltd. operates in Sudan and may operate in Syria. Sudan and Syria are designated as state sponsors of terrorism by the State Department and are subject to U.S. economic sanctions and export controls. Please describe to us the nature and extent of your past, current and anticipated contacts with Sudan and Syria, if any, whether through customers, distributors, joint venture partners or other direct or indirect arrangements. You should describe any products, technology or services you have provided to Sudan or Syria, directly or indirectly, and any agreements, arrangements or other contacts you have had with the governments of those countries or entities they control.

2. Please discuss the materiality of any contacts with Sudan and Syria you describe in response to the comment above, and whether the contacts constitute a material investment risk for your security holders. You should address materiality in quantitative terms, including the approximate dollar amounts of any revenues, assets and liabilities associated with Sudan and Syria for the last three fiscal years and the subsequent interim period. Also, address materiality in terms of qualitative factors that a reasonable investor would deem important in making an investment decision, including the potential impact of corporate activities upon a company's reputation and share value. Various state and municipal governments, universities and other investors have proposed or adopted divestment or similar initiatives regarding investment in companies that do business with U.S.-designated state sponsors of terrorism. You should address the potential impact of the investor sentiment evidenced by such actions directed toward companies that have operations associated with Sudan and Syria.

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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

You may contact Pradip Bhaumik, Special Counsel, at (202) 551-3333 or me at (202) 551-3470 if you have any questions about the comments or our review.

Sincerely,

/s/ Cecilia Blye

Cecilia Blye, Chief
Office of Global Security Risk

cc: Amanda Ravitz
Assistant Director
Division of Corporation Finance