



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

DIVISION OF
CORPORATION FINANCE

Mailstop 4628

September 15, 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 refer you to our comment letter dated August 13, 2015, regarding business contacts with Sudan and Syria. We have completed our review of this subject matter. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or 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. 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 rules require.

Sincerely,

/s/ Cecilia Blye

Cecilia Blye, Chief
Office of Global Security Risk

cc: Amanda Ravitz
Assistant Director
Division of Corporation Finance