



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

May 23, 2012

Via E-mail

Mr. Timothy P.V. Mammen
Chief Financial Officer
IPG Photonics Corporation
50 Old Webster Road
Oxford, Massachusetts 01540

RE: **IPG Photonics Corporation**
Form 10-K for Fiscal Year Ended December 31, 2011
Filed February 27, 2012
File No. 001-33155

Dear Mr. Mammen:

We have reviewed your filing and have the following 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 within ten business days, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2011

Item 1. Business, page 2

1. To the extent that recent developments in the supply of and access to rare earth metals have affected or are likely to affect your business, provide the disclosure required by Item 101(c)(1)(iii) of Regulation S-K in your future filings, as applicable. In addition, if access to rare earth metals by you, your suppliers or customers creates uncertainties or risks for your business, please also provide risk factor or trends disclosure pursuant to Items 503(c) and 303 of Regulation S-K in your future filings, as applicable.

Index to Financial Statements, page F-1

Notes to Consolidated Financial Statements, page F-7

Note 1. Nature of Business and Summary of Significant Accounting Policies, Page F-7

Revenue Recognition, page F-9

2. We note from your Management's Discussion and Analysis disclosures on page 41 that you offer volume discounts to customers that buy multiple units. If such discounts are material, in future filings please revise your revenue recognition accounting policy disclosures to explain how you account for and present the referenced volume discounts in your financial statements.
3. We noted disclosures herein that you "defer revenue on multiple element arrangements if the fair values of the undelivered elements are not known". Please tell us the specific authoritative U.S. GAAP that you believe supports the referenced policy disclosures and revise future filings, as necessary, to clarify your accounting policy for multiple element arrangements. In your response to this comment please also tell us how your referenced policy is consistent with the guidance at FASB ASU 2009-13.

Note 7. Redeemable Non-controlling Interests, Stockholders' Equity and Non-controlling Interests, page F-19

4. We noted disclosures on page 30 that "even though we control a supermajority of the shares and a majority of the board, certain actions require unanimous shareholder approval". Please tell us more about the rights of the minority shareholders' of NTO IRE-Polus. Also, provide us with an analysis of your consideration of the guidance at FASB ASC 810-10-25, including paragraphs 1 – 14 thereof. Finally, revise your disclosures in future filings to discuss the impact

of any NTO IRE-Polus non-controlling shareholder rights on your NTO IRE-Polus consolidation accounting conclusions.

5. We see disclosures herein that in December 2010 you entered into an investment agreement with an unrelated third party, The Russian Corporation for Nanotechnology (“Rusnano”) and under the investment agreement Rusnano acquired a 12.5% non-controlling interest in NTO and warrants to purchase up to an additional 12.5% of NTO. We also see you indicated Rusnano invested \$25 and \$20 million in NTO in December 2010 and June 2011, respectively. With respect to the aforementioned transaction, please address the following:
- tell us how your accounting for the referenced investments complied with the guidance at FASB ASC 810-10-45, including paragraphs 21A-24 thereof, or other authoritative U.S. GAAP;
 - tell us where and how the Rusnano cash investment amounts of \$25 and \$20 million are presented in the redeemable non-controlling interest reconciliations in this Note and in your financial statements as well as why the presentation is appropriate and in accordance with U.S. GAAP and
 - tell us what the amounts labeled “increase to the initial redemption value” in the redeemable non-controlling interest reconciliation in this Note represent and how such amounts are accounted for and presented in your financial statements.

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 Dennis Hult, Staff Accountant, at (202) 551-3618 or Jay Webb, at (202) 551-3603 if you have questions regarding comments on the financial statements

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and related matters. Please contact Allicia Lam at (202) 551-3316 or Tim Buchmiller at (202) 551-3635 if you have questions on any other comments. You may also contact me at (202) 551-3643.

Sincerely,

/s/ Jay Webb “for”

Kevin Vaughn
Accounting Branch Chief