



DIVISION OF
CORPORATION FINANCE

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

January 14, 2011

Linda B. Grable
Chief Executive Officer
Imaging Diagnostic Systems, Inc.
5307 NW 35th Terrace
Fort Lauderdale, Florida 33309

**Re: Imaging Diagnostic Systems, Inc.
Registration Statement on Form S-1
Filed December 21, 2010
File No. 333-171327**

Dear Ms. Grable:

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.

Form S-1 Facing Page

1. Please tell us why you have not selected the box for "smaller reporting company."

Description of Business, page 25

Overview, page 25

2. We note your disclosure that, on November 22, 2010, you submitted a premarket notification 510(k) application to the FDA regarding your computed tomography laser breast imaging system. Given your disclosure that this product was designated as a "Class III" medical device for which premarket approval, or PMA, is required prior to commercialization, please revise your disclosure to:

- explain why you submitted a 510(k) application rather than a PMA application;
 - explain in greater detail the procedural and substantive differences in the FDA approval process between a 510(k) application and a PMA application; and
 - clarify how your November, 2010 submission will enable you to “move forward in the process of seeking U.S. marketing clearance” and state explicitly whether you intend to submit a PMA application to the FDA.
3. Please provide us a table that summarizes each statement of guidance that you provided investors over the past five years regarding when you would file your PMA application, the specific location of that statement, the reason that you were not able to achieve that goal, and the specific location of the disclosure of that reason. If the reason involved lack of financing, please tell us when you obtained the needed financing.

Foreign Regulation, page 30

4. Please disclose the regulatory status of your product in each jurisdiction in which your product has been marketed or sold. We note for example the jurisdictions that you mention in the section of your document captioned “Global Commercialization Update” beginning on page 32.

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.

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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.

Please contact Mary Beth Breslin at (202) 551-3625 or me at (202) 551-3617 with any questions.

Sincerely,

Russell Mancuso
Branch Chief

cc (via facsimile): Robert B. Macaulay, Esq. – Carlton Fields, P.A.