



DIVISION OF
CORPORATION FINANCE

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

February 17, 2011

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

**Re: Imaging Diagnostic Systems, Inc.
Proxy Statement on Schedule 14A
Filed February 7, 2011
File No. 000-26028**

Dear Ms. Grable:

We have limited our review of your filing 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 within ten business days by amending your filing, 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 or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

1. To the extent applicable, please revise your disclosure on pages 2-3 and 26-27 to comply with our comment letters dated January 14, 2011 and February 10, 2011 regarding your registration statement on Form S-1, file no. 333-171327.
2. We note your disclosure that you anticipate you will obtain 510(k) clearance in 2011. Please provide us the basis for that disclosure. Also, please balance your disclosure with equally prominent information regarding your previous statements to shareholders regarding when you would receive FDA clearance and the extent to which those statements were accurate.

How Many Votes Are Needed, page 10

3. Please tell us with specificity the authority on which you rely to conclude that proposal 2 can be approved by a majority of shares present rather than a majority of shares outstanding.

Security Ownership of Certain Beneficial Owners and Management, page 13

4. With a view toward clarified disclosure, please tell us why the beneficial ownership information in the table on page 13 is different from that in your amended Form S-1 filed on February 1, 2011.
5. Reconcile your disclosure in note 6 regarding the total shares subject to options with the sum of the amounts of shares subject to options set forth in notes 3, 4 and 5.

Proposal 2, Increase in the Number of Authorized Shares..., page 26

6. Please revise to indicate how you determined the size of the increase for which you are seeking authorization.
7. Please disclose clearly the total number of shares that you may be required to issue pursuant to all options, warrants, convertible debt or other arrangements or understandings, whether written or oral, and briefly describe the material terms of each such commitment. Also disclose the extent of each related person's interest in those commitments. For outstanding commitments pursuant to which you could be obligated to issue shares in excess of the number of shares currently authorized, please provide all disclosure regarding such commitment as if shareholders were being asked to approve the commitment; see Note A to Schedule 14A.
8. We note your reference in the third paragraph to shareholders' prior approval of increases in authorized shares, and your statement that you had hoped that the shares previously authorized would be sufficient to meet your funding needs. Please revise to indicate the date and size of your last increase in authorized shares. Also clarify your disclosure as to the reasons for the difference between your projection that the shares currently authorized would be sufficient to fund your operations and your actual need for additional funding through share issuances. For instance, clarify why international commercialization proceeded "slower than expected."
9. Please tell us where you have filed your articles of incorporation that reflect the number of authorized shares that you disclose in the first paragraph of this section. Note that Regulation S-K Item 601(b)(3) requires that you file a complete copy of your charter as amended without requiring investors to piece together the document from multiple filings.

Linda B. Grable
Imaging Diagnostic Systems, Inc.
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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 Mary Beth Breslin at (202) 551-3625 or me at (202) 551-3617 with any questions.

Sincerely,

Russell Mancuso
Branch Chief

cc (by facsimile): Robert B. Macauley, Esq. — Carlton Fields, P.A.