



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-4631

DIVISION OF
CORPORATION FINANCE

Mail Stop 4631

October 16, 2009

Via U.S. Mail and Facsimile

Melissa G. Beare, Esq.
Vice President, General Counsel and Corporate Secretary
PMFG, Inc.
14651 North Dallas Parkway, Suite 500
Dallas, Texas 75254

Re: PMFG, Inc.
Registration Statement on Form S-3
Filed September 22, 2009
File No. 333-162065

Dear Ms. Beare:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

General

1. Please tell us supplementally whether you will have a sufficient number of authorized common stock shares to accomplish the conversion of the Series A Preferred Stock and exercise of the warrants in the event that you do not receive the required majority shareholder vote to increase the number of authorized shares of your common stock by 25 million shares. In this regard, we note that your definitive proxy statement filed September 28, 2009 suggests that this increase is made pursuant to the Securities Purchase Agreement with your selling shareholders, yet counsel's opinion appropriately covers all of the shares registered for resale.
2. Please revise your disclosure to provide a description of the rights, including a description of the flip-in and flip-over features of the rights under the rights plan. See Item 202(c) of Regulation S-K. Alternatively, please incorporate the description of the rights from your Form 8-A filed August 15, 2008.

Calculation of Registration Fee

3. Please revise to register the rights attached to your common stock as a separate security. See Compliance and Disclosure Interpretations, Securities Acts Forms, Question 116.16, available at:
<http://www.sec.gov/divisions/corpfin/guidance/safinterp.htm>.

Selling Stockholders, page 5

4. Please revise the table to indicate, for each entity listed in the table, the person(s) who have voting or investment control over the company's securities that the entity owns. See Compliance and Disclosure Interpretations, Regulation S-K, Question 140.02, available at:
<http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>.
5. We note that a number of your selling shareholders share the same last names. Please tell us supplementally whether any group of related shareholders is registering more than 10% of shares held by non-affiliates of the company. If any of the selling shareholders has had any material relationship with the company at any time during the past three years, please disclose this. We may have additional comments upon review of your response.
6. Please revise to include a row calculating the totals of each column provided in the table.
7. Please revise to disclose whether any of the selling security holders are broker-dealers or affiliates of broker-dealers. If any selling security holder is a registered

broker-dealer, it should be named as an underwriter. If any selling security holder is an affiliate of a registered broker-dealer, please indicate whether it acquired the securities to be resold in the ordinary course of business. Please also indicate whether at the time of the acquisition it had any agreements, understandings or arrangements with any other persons, either directly or indirectly, to dispose of the securities.

* * * *

As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

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 all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. 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 the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, 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 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.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

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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. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

If you have any questions, please call Chambre Malone, Staff Attorney at (202) 551-3262 or, in her absence, myself at (202) 551-3760.

Sincerely,

Pamela Long
Assistant Director

cc: James E. O'Bannon, Esq. (*via facsimile at* (214) 969-5100)
Jones Day
2727 N. Harwood
Dallas, Texas 75201