



DIVISION OF
CORPORATION FINANCE

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

September 17, 2010

Stephen J. Wiehe
President and Chief Executive Officer
SciQuest, Inc.
6501 Weston Parkway, Suite 200
Cary, North Carolina 27513

**Re: SciQuest, Inc.
Amendment No. 5 to Registration Statement on Form S-1
Filed September 2, 2010
File No. 333-165720**

Dear Mr. Wiehe:

We have reviewed the above-referenced filing and the related response letter dated September 2, 2010 and have the following comment. If indicated, we think you should revise your document in response to this comment. After reviewing this information, we may raise additional comments. Unless otherwise noted, where a prior comment is referred to, it refers to our letter dated August 20, 2010.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies

Stock-Based Compensation

April 2010 Grants, page 48

1. We note the revisions made in response to prior comment 1. Further explain why you believe your valuations (i.e., stock price) would have had the same stock appreciation experienced by the comparable companies. That is, explain why you believe their stock prices increased significantly and explain why you believe that your business is so comparable that you too would have experienced a similar appreciation. Consider addressing whether the comparable companies experienced a similar revenue growth as you did. You should address that the increase in your fair value does not correlate to your revenue growth. In this regard, your disclosure should provide an analysis of why you believe these comparable companies are truly comparable, should provide reasons for the significant increase in values, and should explain in more detail why your enterprise value would increase similarly to those comparable companies.

Stephen J. Wiehe
SciQuest, Inc.
September 17, 2010, 2010
Page 2

You may contact Tamara J. Tangen, Staff Accountant, at (202) 551-3443 or, in her absence, Stephen G. Krikorian, Accounting Branch Chief at (202) 551-3488 if you have questions regarding comments on the financial statements and related matters. Please contact Ryan Houseal, Attorney-Advisor at (202) 551-3105 or me at (202) 551- 3735 with any other questions.

Sincerely,

Barbara C. Jacobs
Assistant Director

cc: Via Facsimile: (404) 365-9532
Grant W. Collingsworth, Esq.
Seth K. Weiner, Esq.
Morris, Manning & Martin, LLP