



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 6010

October 12, 2007

VIA U.S. MAIL and FACSIMILE

Jeffery A. Baird
CAS Medical Systems, Inc.
Chief Financial Officer
44 East Industrial Road
Branford, Connecticut 06405

RE: CAS Medical Systems, Inc.
Form 10-KSB for the fiscal year ended December 31, 2006
Filed March 19, 2007
File No. 000-13839

Dear Mr. Baird:

We have reviewed your response dated September 12, 2007 and related filings and have the following 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.

Form 10-KSB for the fiscal year ended December 31, 2006

Consolidated Financial Statements

Note 2. Acquisition, page F-6

1. We reference your response to prior comment four in our letter dated August 28, 2007. You state that there are “no intellectual property considerations nor were there registered trademarks or certifications as of the acquisition date which may have created competitive advantages or barriers to entry into these markets.” It is not clear how this affects whether there are separable or contractual or other legal rights which should be recognized as an intangible asset apart from goodwill. We also note your statement in Note 2 that “Statcorp also enjoys certain key OEM, private label, and distributor relationships which CAS Medical may seek to expand to its other product lines.” Please further explain the analysis that underlies your conclusions about the allocation to intangible assets. In that regard, further explain to us how you identified intangible assets and how your assessment of fair value and the related allocation comply with the specific requirements of SFAS 141.

Note 3. Summary of Significant Accounting Policies, page F-7

Intangible and Other Assets, page F-8

2. We note your response to prior comment six in our letter dated August 28, 2007. Please tell us the nature of the patent costs capitalized as of December 31, 2006. Please clarify whether the patent costs are legal fees or other costs of an internally developing intangible asset. Note that the costs of internally developing intangible assets that are not specifically identifiable, that have indeterminate lives, or that are inherent in a continuing business and related to an entity as a whole are expensed as incurred pursuant to the requirements of paragraph 10 of SFAS 142.
3. As a related matter, in future filings please include in your disclosure the amount of assets that are not being amortized until notification of patent awards.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response 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 responses to our comments.

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You may contact Kristin Lochhead at (202) 551-3664 or me at (202) 551-3605 if you have questions. In this regard, please do not hesitate to contact Brian Cascio, Accounting Branch Chief, at (202) 551-3676 with any other questions.

Sincerely,

Gary Todd
Reviewing Accountant