

Mail Stop 3720

April 13, 2007

Mr. Edward A. Keible
President and Chief Executive Officer
Endwave Corporation
130 Baytech Drive
San Jose, CA 95134

**Re: Endwave Corporation
Registration Statement on Form S-3
Filed March 14, 2007
File No. 333-141295**

Dear Mr. Keible:

We have limited our review of your Form S-3 to those issues we have addressed in our comments. Where indicated, we think you should revise your documents 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 or may not 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. We note that you are registering the sale of 3,000,000 shares of common stock. Given the size relative to the number of shares outstanding held by non-affiliates, the nature of the offering and the selling security holder, the transaction appears to be a primary offering. Because you are not eligible to conduct a primary offering on Form S-3, you are not eligible to conduct a primary at-the-market offering under Rule 415(a)(4). Therefore, revise the offering to fix the offering price of the shares being offered for the duration of the offering and identify the selling security holder as an underwriter in the filing.

If you disagree with our analysis, please advise the staff of your basis for determining that the transaction is appropriately characterized as a transaction that is eligible to be made under Rule 415(a)(1)(i). In your analysis, please address the following among any other relevant factors:

- The date on which and the manner in which the selling shareholder received the shares and/or the overlying securities;
- The dollar value of the shares registered in relation to the proceeds that you received from the selling shareholder for the securities, excluding amounts of proceeds that were returned (or will be returned) to the selling shareholder and/or its affiliates in fees or other payments;
- The relationship of the selling shareholder with the company, including an analysis of whether the selling shareholder is an affiliate of the company; and
- Whether or not the selling shareholder is in the business of buying and selling securities.

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2. We also note that the selling stockholder has agreed not to sell or otherwise dispose of any of the shares of common stock being registered in this offering until October 24, 2007, with such restriction expiring with respect to the shares being offered on each of October 24, 2007, January 24, 2008, April 24, 2008 and July 24, 2008. In light of this restriction, tell us why you believe it is appropriate to register at this time any and all of the shares underlying the series B preferred.

Signatures

3. Please have your principal accounting officer sign in that capacity.

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As appropriate, please amend your filing 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 amendments 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 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.

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.

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.

Mr. Edward A. Keible
Endwave Corporation
April 13, 2007
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You may contact William Bennett, Staff Attorney, at 202-551-3389, or me, at 202-551-3833, with any other questions.

Sincerely,

Michele Anderson
Legal Branch Chief

cc: Via facsimile: (415) 693-2222
Jodie Bourdet
Cooley Godward Kronish LLP