

Via Facsimile and U.S. Mail
Mail Stop 6010

June 19, 2006

Kevin T. Conroy
Chief Executive Officer
Third Wave Technologies, Inc.
502 S. Rosa Road
Madison, WI 53719

Re: Third Wave Technologies, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2005
Filed March 15, 2006
File Number: 000-31745

Dear Mr. Conroy:

We have limited our review of your filing to the issues we have addressed in our comments. In our comments, we ask you to provide us with additional information so we may better understand your disclosures. 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Item 7. Management's Discussion and Analysis of Financial Condition and ..., page 26

Contractual Obligations, page 32

1. Please tell us what comprises your other long-term liabilities and to what extent they represent contractual obligations that should have been included in your contractual obligations table. If there were any material obligations that should have been included in the table, please provide us revisions to your contractual obligations table to include them and to include the interest on your long-term debt.

Item 8. Financial Statements and Supplementary Data, page 33

Notes to Consolidated Financial Statements, page 39

2. Summary of Significant Accounting Policies, page 39

Revenue Recognition, page 42

2. While you disclose how you allocate consideration received in multiple element arrangements to the separate units of accounting, please tell us why each is considered a separate unit of accounting. Address the criteria in paragraph 9 of EITF 00-21.

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Please provide us the additional information requested 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 response to our comments. Detailed cover letters greatly facilitate our review. Please file your letter on EDGAR under the form type label CORRESP.

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 Exchange Act of 1934 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.

In connection with responding to our comments, please provide, in your letter, a 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.

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 our review of your filing or in response to our comments on your filing.

Kevin T. Conroy
Third Wave Technologies, Inc.
June 19, 2006
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You may contact Vanessa Robertson, Staff Accountant, at (202) 551-3649 or Oscar Young, Senior Accountant, at (202) 551-3622 if you have any questions regarding the comments. In this regard, do not hesitate to contact me, at (202) 551-3679.

Sincerely,

Jim B. Rosenberg
Senior Assistant Chief
Accountant