



DIVISION OF  
CORPORATION FINANCE

Mail Stop 3030

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

October 6, 2009

Paul J. van der Wansem  
President, Chief Executive Officer and Chairman of the Board of Directors  
BTU International, Inc.  
23 Esquire Road  
North Billerica, Massachusetts 01862-2596

**Re: BTU International, Inc.**  
**Form 10-K for the fiscal year ended December 31, 2008**  
**Filed March 16, 2009**  
**Form 10-Q for the fiscal quarter ended June 28, 2009**  
**Filed August 7, 2009**  
**File No. 000-17297**

Dear Mr. van der Wansem:

We have reviewed your letter dated September 10, 2009 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-K for the fiscal year ended December 31, 2008

Item 11. Executive Compensation, page 56

1. We note your response to comment 5 in our August 31, 2009 letter, in which you indicate that you do not engage in benchmarking. Please refer to question 118.05 of the Regulation S-K Compliance and Disclosure Interpretations (available at <http://www.sec.gov/divisions/corpfin/guidance/regs-kinterp.htm>), which defines a benchmark as “using compensation data about other companies as a reference point on which – either wholly or in part – to base, justify or provide a framework

for a compensation decision.” Your response indicates that you use comparative data as a “factor in setting compensation levels,” and you disclose on page 4 of your proxy that base salaries are “based on market practices of other companies.” You also disclose that in setting cash incentive compensation you consider the average amount of compensation paid by companies in a specific revenue range. We therefore reissue our comment.

Signatures

2. We note your response to comment 8 and refer you to General Instruction D of Form 10-K, requiring a signature by the registrant and its chief executive officer. You should also refer to the language appearing on page 12 of that Form, which sets forth the language required to distinguish signatures of the registrant from those of the officers. Given that your Form 10-K does not contain such language identifying whether Mr. van der Wansem signed on your behalf or as chief executive, please amend your Form 10-K to provide proper signatures.

Form 10-Q for the fiscal quarter ended June 28, 2009

Item 4. Controls and Procedures, page 18

3. We note your response to prior comment 11 that you began taking remediation initiatives starting in the second quarter of 2009 to correct your material weaknesses in internal control over financial reporting. With a view toward clarified disclosure, tell us what changes were made to your internal controls over financial reporting for the period ended June 28, 2009 and tell us whether these changes materially affected, or are reasonably likely to materially affect, your internal control over financial reporting.

Please respond to our comment within 10 business days or tell us when you will provide us with a response. Please understand that we may have additional comments after reviewing your response to our comment.

You may contact Kristin Lochhead at (202) 551-3664 or Brian Cascio, Accounting Branch Chief, at (202) 551-3676 if you have questions regarding comments on the financial statements and related matters. Please contact Gabriel Eckstein at (202) 551-3286 or me at (202) 551-3625 if you have questions on other comments.

Sincerely,

Mary Beth Breslin  
Senior Attorney