



DIVISION OF  
CORPORATION FINANCE

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

Mail Stop 3030

May 27, 2009

VIA U.S. MAIL and FACSIMILE

Raymond A. Link  
Chief Financial Officer  
FEI Company  
5350 NE Dawson Creek Drive  
Hillsboro, Oregon 97124-5793

**RE: FEI Company**  
**Form 10-K for the fiscal year ended December 31, 2008**  
**Filed February 20, 2009**  
**File No. 000-22780**

Dear Mr. Link:

We have reviewed your filing and have the following comments. Where indicated, we think you should revise your future filings 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 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 27

Net Sales by Segment, page 31

1. We reference the discussion of the increases in sales for the Research and Industry and Life Sciences segments due to "increased shipments of our TEM products." In future filings please provide a more descriptive analysis of the underlying reasons for the increase in shipments of TEM products for each segment. For example, if the volume of TEM units has increased, you could describe why the demand for such units has increased for the respective segment. For guidance please refer to Release No. 33-8350 - *Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations*.

Restructuring, Reorganization, Relocation, and Severance, page 35

2. Please tell us and disclose in future filings, consistent with SAB Topic 5.P.4, a quantification of the expected effects on future earnings and cash flows resulting from the exit plan, along with the initial period in which you expect to realize those effects.

Consolidated Financial Statements

Note 1. Summary of Significant Accounting Policies, page 58

Inventories, page 60

3. You disclose that service inventories that exceed estimated requirements for the next 12 months based on recent usage are classified as other long-term assets. We also see that long-term inventories are a significant component of your total inventories. To help us better understand how you have accounted for long-term inventories, please respond to the following:
  - Describe and quantify the significant components of the long-term inventory.
  - Describe the aging of the long-term inventory and the expected timing of usage.
  - Describe to us in reasonable detail how you estimate the current and non-current portions of inventories.
  - You indicate that you have provided inventory "reserves" for excess and obsolete inventories. Please tell us how your accounting and disclosure considers the guidance from SAB Topic 5-BB. Under that guidance, inventory impairment charges are cost adjustments.

- Tell us how you assess long-term inventories for impairment. In that regard you disclose that you utilize a “higher percentage of reserve against the recorded balance” of long-term inventories. Please tell us how you estimate this “percentage” and how your method is appropriate in GAAP.
4. As a related matter, we refer to the Critical Accounting Policy disclosure about inventories appearing on page 43. In future filings please expand to further clarify the components of and accounting for long-term inventories. In that regard please:
- Provide disclosure about the components of the long-term inventories. That is, clarify the nature and significant components of the service inventories and clarify whether any other inventories are classified as long-term.
  - Please provide reasonably specific disclosure about how you estimate the current and non-current portions of inventory, including reasonably specific disclosure about how you estimate future usage.
  - You indicate that you maintain a substantial supply of parts for repairs and field service. Please clarify the extent to which the long-term inventory is held for this purpose.
  - Clarify the expect timing and pattern of usage of the long-term inventories, and the basis for your determinations.
  - Further clarify how you evaluate long-term inventories for impairment. You indicate that you apply a percentage against the carrying amount. Please clarify how you estimate that percentage and how that percentage considers the specific recoverability of the individual components of the long-term inventories. Please describe the subjectivity and potential variability of your estimates.

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.

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 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 writing, a statement from the company acknowledging that:

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- 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.

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

Sincerely,

Brian Cascio  
Accounting Branch Chief