



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

Mail Stop 6010

December 18, 2007

VIA U.S. MAIL and FACSIMILE

Mr. Lawrence D. Firestone
Executive Vice President and Chief Financial Officer
1625 Sharp Point Drive
Fort Collins, CO 80525

**RE: Advanced Energy Industries, Inc.
Form 10-K for the fiscal year ended December 31, 2006
Filed February 20, 2007
File No. 000-26966**

Dear Mr. Firestone:

We have reviewed your filing 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, 2006

Item 3. Legal Proceedings, page 13

1. We see in your disclosure in Item 3 that there are no outstanding legal proceedings. In Note 15 of your financial statements you provide disclosure of several disputes and legal matters. In future filings provide disclosure of all legal proceedings in Item 3.

Consolidated Financial Statements

Consolidated Statements of Cash Flows, page 31

2. Please clarify whether the caption for the \$(22,280) adjustments for deferred income taxes included in net cash provided by (used in) operating activities is correct. It appears that this represents a benefit for deferred income taxes.

Note (1) Company Operations and Summary of Significant Accounting Policies

Revenue Recognition, page 32

3. We reference your disclosure in Note (1) on page 32 that generally you do not have any obligations to your customers:
 - after your products are shipped under FOB shipping point terms,
 - after your products are received by customers under FOB destination terms, and
 - after your products are accepted by customers under contractual acceptance provisions.

In future filings, clarify what you mean by generally you do not have any obligations. Please discuss any obligations and address these in your accounting policy.

4. In addition, we note that in accordance with EITF 00-21 you allocate revenue based on the fair value of the delivered item, generally the product, and the undelivered item, installation, based on their respective fair values. Please tell us how you determine fair value (i.e. vendor specific objective evidence) for each of the elements.

Excess and Obsolete Inventory, page 32

5. In future filings please disclose the reason for the significant charges in excess and obsolete inventory each period.

Marketable Securities, page 33 and 41

6. In future filings please provide the disclosures required by paragraphs 19-22 of SFAS 115 or tell us the reason that these disclosures are not required.

Note (3) Dispositions and Discontinued Operations, page 39

7. We reference your discussion in Note (3) that the EMCO product line did not represent a significant portion of your operations and that these results are included in income from operations in the consolidated statements of income. Please provide us the EMCO amounts for each period for revenue and operating expenses that supports your assertion that these amounts did not represent a significant portion of your operations and were not required to be included in discontinued operations each period.
8. In addition, tell how your discontinued operations, including the \$8.9 million proceeds received for the sale of the assets of your IKOR product line in 2005, are reflected in your consolidated statement of cash flows.
9. Tell us if the sale of the Noah Chiller business discussed in Note (20) is included in discontinued operations.

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:

Mr. Lawrence D. Firestone
Advanced Energy Industries, Inc.
December 18, 2007
Page 4

- 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 Jong Hwang at (202) 551-3327 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