



DIVISION OF
CORPORATION FINANCE
Mail Stop 3030

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

October 30, 2009

VIA U.S. MAIL and FACSIMILE

Lawrence D. Firestone
Chief Financial Officer
Advanced Energy Industries, Inc.
1625 Sharp Point Drive
Fort Collins, CO 80525

**RE: Advanced Energy Industries, Inc.
Form 10-K for the fiscal year ended December 31, 2008
Filed February 27, 2009
Form 10-Q for the fiscal quarter ended June 30, 2009
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 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.

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Chief Financial Officer
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Form 10-K for the fiscal year ended December 31, 2008

Item 7. Management's Discussion of Financial Condition and Results of Operations

Restructuring Charges, page F-21

1. We see that you have implemented exit plans in 2007, 2008 and 2009. In future filings please provide quantified disclosure of the expected cost savings from the exit plans and identify the period when you expect to first realize those benefits. For guidance on MD&A disclosures about exit plans, please refer to SAB Topic 5-P.

Item 8. Financial Statements and Supplementary Data, page 28

Note 1. Company Operations and Summary of Significant Accounting Policies, page 35

Revenue Recognition, page 35

2. We see from page 3 that you also offer repair services, conversions, upgrades and refurbishments. To the extent that these services generate material revenue streams, please tell us and revise future filings to also disclose your revenue recognition policy with respect to service revenue.

Note 3. Balance Sheet Details, page 42

3. We see that you present an allowance for inventory impairment as a deduction from the cost of gross total inventories. Tell us why the allowance should not be allocated to and netted with the individual components of inventory for purposes of this disclosure. We refer you to FASB ASC 330-10-35-14 and SAB Topic 5-BB, both of which indicate that inventory impairment charges establish a new cost basis for impaired inventory.

Note 7. Income Taxes, page 46

4. You disclose that operating loss and credit carry-forwards expire through 2028. In future filings please disaggregate the disclosure to clarify the actual expiration dates of the material amounts of the carry-forwards. Also, clarify the nature of the restriction on the \$5.7 million that is "subject to limitations under the US tax code."

Note 11. Foreign Operations and Major Customers, page 50

5. We see that you present measures of operating earnings for three geographic areas. You also disclose that your business is managed as a single segment. In light of the disclosure of the measures of geographic operating earnings, please tell us how you concluded that you do not have segments based on geography. Fully explain the basis in GAAP for your conclusion.
6. As a related matter, if you conclude that you do not have operating segments based on geography, please tell us why you believe it is appropriate in GAAP to present the measures geographic operating earnings in your filing. Please explain the following:
 - Tell us why you believe the disclosure of geographic operating earnings is appropriate under FASB ASC 280. In that regard we note that the enterprise-wide measures required by FASB ASC 280-10-50-41 are limited to disclosures about revenues and long-lived assets. We refer also to Question 20 of the FASB publication Segment Information: Guidance on Applying Statement 131.
 - Tell us how you concluded that the referenced disclosure does not present non-GAAP financial measures. We refer you to Item 10(e) of Regulation S-K and Question 21 of the Frequently Asked Questions Regarding the Use of non-GAAP Financial Measures.

Item 9A. Controls and Procedures, page 52

7. As required by Item 308 of Regulation S-K, please revise future filings to also include a statement of management's responsibility for establishing and maintaining adequate internal control over financial reporting as well as a statement that the registered public accounting firm that audited the financial statements included in the annual report containing the disclosure required by this Item has issued an attestation report on your internal control over financial reporting.

Item 11. Executive Compensation, page 52

8. We note your disclosure on page 18 of your proxy statement that the compensation committee establishes base salaries between the 40th and 60th percentile in relation to the peer group. We also note that long-term equity compensation is set between the 60th and 70th percentile in relation to your peer group. Please disclose where base salaries and long-term equity compensation actually fell in relation to the peer group.

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9. We note that the targets for your annual incentive compensation were not achieved and were not disclosed. Please confirm that you will disclose in future filings all performance targets related to your named executive officer's incentive compensation.

Item 13. Certain Relationships and Related Transactions, page 53

10. While we note your disclosure on page 28 of your proxy statement that you have not memorialized your policy relating to related party transactions, please disclose the types of transactions covered by the policy, the standards applied under your policy, and how your policies are evidenced since they are not in writing. Refer to Item 404(b)(1) of Regulation S-K.

Form 10-Q for the fiscal quarter ended June 30, 2009

Item 2. Management's Discussion of Financial Condition and Results of Operations

Income Taxes, page 20

11. In light of the negative trends in your results of operations in 2008 and 2009, in future filings please expand the discussion of your rationale regarding the recoverability of net deferred tax assets to provide a balanced discussion of all of the significant positive and negative factors management considered in concluding that net deferred tax assets are more likely than not recoverable. Also, clarify how you weighted and evaluated the factors you cite. To the extent realization of net deferred tax assets is dependant on tax planning strategies or non-routine transactions, please disclose and describe. As a related matter, it appears that you have moved and may be moving an increasing number of business functions outside of the United States. Accordingly, to the extent relevant, please also address how the transfer of functions to Asia may impact your ability to generate taxable income necessary to recover deferred tax assets attributed to the United States.

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

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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:

- 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 me at (202) 551-3605 if you have questions on the financial statements and related matters. Please contact Gabe Eckstein at (202) 551-3286 or Daniel Morris at (202) 551-3314 with any other questions.

Sincerely,

Gary Todd
Accounting Reviewer