



DIVISION OF  
CORPORATION FINANCE

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549-7010

**VIA FACSIMILE AND U.S. MAIL**

October 31, 2008

Timothy C. Carlson  
Chief Financial Officer  
ATMI, Inc.  
7 Commerce Drive  
Danbury, CT 06810

**RE: ATMI, Inc.  
Form 10-K for Fiscal Year Ended December 31, 2007  
Forms 10-Q for Fiscal Quarters Ended March 31, 2008 and  
June 30, 2008  
File No. 1-16239**

Dear Mr. Carlson:

We have reviewed your filings and have the following comments. If you disagree with a comment, 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 or may not 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 filings. 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.

**FORM 10-K FOR THE YEAR ENDED DECEMBER 31, 2007**

**General**

1. Where a comment below requests additional disclosures or other revisions, please show us in your response what the revisions will look like. These revisions should be included in your future filings, including your interim filings where appropriate.

Business, page 12

2. We note your discussion regarding your exclusive license, manufacture and distribution agreement with Matheson Tri-Gas. Please tell us why you have not filed this agreement as an exhibit pursuant to Item 601(b)(10)(ii)(B) of Regulation S-K. Please also include a risk factor about this agreement if this significant pursuant to Item 503(c) of Regulation S-K.
3. Please include a discussion of the sources and availability of raw materials pursuant to Item 101(c)(1)(iii) of Regulation S-K.
4. Tell us why you did not include a discussion of your practices and the industry relating to working capital items pursuant to Item 101(c)(1)(vi) of Regulation S-K.

Risk Factors, page 18

5. We note your discussion regarding your largest customers. Please include a discussion in the business section regarding any dependence on a single customer, or a few customers pursuant to Item 101(c)(1)(vii) of Regulation S-K.

Legal Proceedings, page 21

6. Please disclose the name of the subsidiary or affiliate that is a party to a proceeding, the name of the court or agency in which the proceedings are pending and the date instituted when describing legal proceedings pursuant to Item 103 of Regulation S-K.

Market for Registrant's Common Equity, page 23

7. Please include the performance graph pursuant to Item 201(e) of Regulation S-K.

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 27

Year Ended December 31, 2007 Compared to Year Ended December 31, 2006, page 32

8. Please expand/revise your discussion under results of operations for all periods to:
  - Discuss with quantification the extent to which material increases in sales revenue are attributable to increases in prices, volume or amount of goods being sold, or introduction of new products. For example, you explain that the increase was broad based across your product portfolio and sales in your wafer-start driven high performance materials and materials delivery product lines increased because of growth in wafer starts during the period without quantification. Please also expand your explanation of this increase to address

whether this was a one-time event or may continue in the future, the impact on future sales and the reason why there was growth in wafer starts during the period;

- Expand your discussion of revenues to address changes in sales underlying your principal product lines. If these product lines have materially different gross profits, ensure your discussion of cost of revenues adequately addresses this fact; and
- Quantify each factor you cite as impacting your operations. For example, you disclose the increase in selling, general and administrative expenses has grown in 2007 compared to 2006 primarily because of increased employee-related costs, litigation costs and depreciation on facilities, without quantifying the impact attributed to each component.

Note that this is not meant to represent an all-inclusive list of where your MD&A should be improved. We encourage you to provide quantification of amounts and further clarification throughout your discussion. See Item 303(a)(3) of Regulation S-K.

Exhibits, page 42

9. Pursuant to Item 10(d) of Regulation S-K, no document on file with the Commission for more than five years may be incorporated by reference. Please file the following documents that are incorporated by reference:
  - a. Exhibit 10.4: Agreement of Lease
  - b. Exhibit 10.7: ATMI's 1995 Stock Plan

Financial Statements

1. Organization and Summary of Significant Accounting Policies, page F-8

Non-marketable Equity Securities, page F-10

10. On page F-11, you indicate that management has determined that Anji is a variable interest entity in accordance with FIN 46R. However, you indicate that you account for this investment using the equity method of accounting. Please clarify and disclose how you determined that you are not the primary beneficiary of Anji as defined in paragraph 15 of FIN 46R. Please also tell us what consideration you gave to paragraphs 5 and 11 regarding development stage enterprises in concluding that your investment should not be consolidated and should be accounted for using the equity method. Please also cite any other accounting literature used to support your conclusions.

Property, Plant & Equipment, page F-11

11. Please disclose the line item(s) in which you include depreciation and amortization, as well as amounts included in each line item for each period presented. If you do not allocate depreciation and amortization to costs of revenues, please revise your presentation on the face of your statements of income and throughout the filing to comply with SAB Topics 7:D and 11:B, as well as Item 10(e) of Regulation S-K.

15. Geographic Segments, page F-32

12. Please enhance your enterprise-wide disclosures to include information about your products and services as required by paragraph 37 of SFAS 131. Your disclosure should include revenue from external customers for your products mentioned in the table on page 13 of this Form 10-K.
13. On page 3, you indicate that your operations comprise of one segment. In your press release on September 26, 2008, "ATMI Reduces 2008 Guidance," you indicate that the reduction in wafer starts in the foundry and memory segments are expected to have an adverse effect on your near term results. Please tell us whether you consider the foundry and memory segments and any other segment not mentioned to be your operating segments and why or why not. Please disclose the factors used to identify your reportable segments and the types of products and services from which each reportable segment derives its revenues in accordance with paragraph 26 of SFAS 131. Please also tell us how you met each of the aggregation criteria in paragraph 17 of SFAS 131 to include each operating segment in the reportable segment you did.

Exhibits, 31.1 and 31.2

14. Please file Exhibits 31.1 and 31.2, principal executive officer and principal financial officer certifications exactly as set forth in Item 601(b)(31) of Regulation S-K. Specifically, in future filings, please include the wording in parentheses in Item 601(b)(31)(i)(4), 4(d) and 5.

Definitive Proxy Statement on Schedule 14A Filed on April 23, 2008

Compensation Discussion & Analysis, page 15

15. Please disclose the annual incentive compensation award threshold performance achieved and the percentage payouts awarded to executive officers.

Compensation Discussion & Analysis, page 17

16. Please disclose and quantify all specific restricted stock award targets, as these targets appear to have been material in your determination of the amount of the awards.

Compensation Discussion & Analysis, page 18

17. Please disclose the restricted stock award threshold performance achieved and the percentage payouts awarded to executive officers.

Form 10-Q for the Quarterly Period Ended June 30, 2008

General

18. Please address the comments above in your interim Form 10-Q as well.

Financial Statements

6. Fair Value, page 16

19. You indicate that during March 2008, the annual auction for your Massachusetts Educational Financing Authority auction rate security failed. You also disclosed that at June 30, 2008, you recorded a temporary impairment charge of \$0.7 million within accumulated other comprehensive income based upon an independent third party valuation for the auction rate security. Based upon the current market environment for auction rate securities, please tell us how you determined that this reduction in value was temporary. Please also tell us what consideration you gave to SAB Topic 5:M in your conclusions regarding your temporary impairment charge.

\* \* \* \*

Please respond to these comments within 10 business days, or tell us when you will provide us with a response. Please provide us with a response letter that keys your responses to our comments and provides any requested information. Detailed letters greatly facilitate our review. Please file your response on EDGAR as a correspondence file. 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 investment decision. Since the company and its

Mr. Timothy Carlson

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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:

- the company is responsible for the adequacy and accuracy of the disclosure in their filings;
- 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 Sherry Haywood, Attorney, at (202) 551-3345 or, in her absence, Jennifer Hardy, Legal Branch Chief, at (202) 551-3767 if you have any questions regarding legal matters. Please contact Ernest Greene, Staff Accountant, at (202) 551-3733 or, in his absence, the undersigned at (202) 551-3769 if you have questions regarding comments on the financial statements and related matters.

Sincerely,

Rufus Decker  
Accounting Branch Chief