May 16, 2006 MP: 5/15/06

Via Edgar

Pursuant to Rule 83, this letter omits confidential information included in the unredacted version of this letter sent by hand to the Securities and Exchange Commission, Division of Corporate Finance.

Securities and Exchange Commission Division of Corporate Finance One Station Place 100 F Street, NE Washington, D.C. 20549-4561 Attention: Kathleen Collins FOIA Confidential Treatment Request
The entity requesting confidential treatment is
Aspen Technology, Inc.
Ten Canal Park
Cambridge, MA 42141
Attention: Frederic G. Hammond, Esq.
Senior Vice President and General Counsel
(617) 949-1000

Re: Aspen Technology, Inc.

Form 10-K for Fiscal Year Ended June 30, 2005

Forms 10-Q for Fiscal Quarter Ended September 30, 2005 and December 31, 2005

Ladies and Gentlemen:

Set forth below please find the responses of Aspen Technology, Inc. (the "Company") to the comments of the staff (the "Staff") of the Securities and Exchange Commission (the "SEC") set forth in the letter, dated April 14, 2006, from Kathleen Collins, Accounting Branch Chief of the SEC, to Mark Fusco, President and Chief Executive Officer of the Company, with respect to the Forms 10-K and 10-Q referenced above.

For convenient reference, the Company has set forth below in italics each of the Staff's comments set forth in the comment letter and has keyed the Company's responses to the numbering of the comments and the headings used in the comment letter.

Form 10-K for the Year Ended June 30, 2005

Management Report on Internal Control over Financial Reporting, page M-1

1. We note your response to our previous comment 1 where you indicate that the post closing adjustments that impacted prior quarters was less than \$400,000. Please provide a breakdown of the <u>individual</u> adjustments by quarter and tell us how you determined whether such adjustments were material to the quarters in which they should have been recorded.

2

Form 10-Q For the Quarterly Period Ended September 30, 2005

Note 4. Stock-Based Compensation, page 8

2. Please refer to comment 7 in our letter dated February 28, 2006. We have reviewed your response and note that the decrease in the volatility assumption used to value the stock options was a result of determining the volatility assumption for the prior year based upon a historical analysis looking back three to five years. Note that paragraph 285 of SFAS 123 states that historical volatility of the stock over the most recent period that is generally commensurate with the expected option life should be considered in estimating expected volatility. Tell us whether you believe three to five years is commensurate with the expected option life in the prior year. If it is not, quantify the difference in the prior periods had the estimated volatility been based on a period commensurate with the expected lives of the options.

The Company estimated the life of the options issued in the prior year to be five years. However, a range of three to five years was used to estimate the volatility of the stock. Although paragraph 285a of SFAS 123 states that historical volatility of the stock over the most recent period that is generally commensurate with the expected option life should be considered in estimating expected volatility, paragraph 285c states that "if an entity's stock was extraordinarily volatile for some identifiable period of time because of a failed takeover bid or a major restructuring, that period might be disregarded in computing historical average annual volatility."

In fiscal year 2002, the Company underwent some significant changes in its structure and business operations. The Company completed a significant acquisition (Hyprotech), which initiated a prolonged investigation and litigation by the Federal Trade Commission, who alleged that the acquisition was anticompetitive. Also, the Company underwent a significant restructuring of its operations, aligning its development processes and market approach around its two primary product lines, engineering and manufacturing/supply-chain. Because of these substantial changes in the structure of the Company, and with the guidance provided in paragraph 285c, management discounted the volatility occurring in 2002 and the period prior to fiscal 2002 when estimating the volatility of the stock in fiscal year 2005. The Company was aware of the guidance residing in SAB 107 surrounding the SEC consideration of "exclusion of periods of historical data" and believed that the above exclusion was consistent with that guidance.

The Company, however, has also reviewed the volatility of its stock without excluding the period discussed above, and has calculated historical volatilities of 102.1% and 101.4% as of June 30, 2005, using a daily annualized calculation of volatility over a five year and three year look-back period, respectively. As such,

3

the Company believes that the estimate of 100% volatility in fiscal 2005 is an appropriate assumption regardless of whether the period is included or excluded.

3. With regards to the incorrect volatility assumption that was used in the pro forma calculations for the Company's stock purchase plan shares, please confirm that you intend to revise your assumptions in your next Form 10-Q filing to properly reflect a volatility of 42% for such plan.

The Company confirms that it has revised the assumptions in its Form 10-Q filing for the fiscal quarter ended March 31, 2006 to properly reflect a volatility of 42% for the stock purchase plan.

4. Also, tell us what consideration you have given to include a discussion of stock-based compensation in your Critical Accounting Policy disclosures, particularly considering the level of estimates and assumptions used in determining the Company's stock-based compensation expense.

The Company has considered the level of estimates and judgments required in the calculation of stock-based compensation and has determined that a discussion in its Critical Accounting Estimates and Judgments disclosures is warranted. The Company has included this disclosure in its Form 10-Q for the fiscal quarter ended March 31, 2006 and also will include this disclosure in future filings.

* * *

The Company acknowledges that:

- the Company is responsible for the adequacy and accuracy of the disclosure in each of its filings with the SEC, including the Forms 10-K and 10-Q to which the above comments and responses relate;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the SEC 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 SEC or any person under the federal securities laws of the United States.

Please do not hesitate to contact the undersigned (617-949-1522) with any questions regarding this response letter.

Very truly yours,

/s/ Charles F. Kane

Charles F. Kane

Senior Vice President and Chief Financial Officer

Aspen Technology, Inc.