

AS FILED WITH THE SECURITIES AND EXCHANGE COMMISSION ON OCTOBER 9, 1998

Registration No. 333-63483

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SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

AMENDMENT NO. 1
TO

FORM S-3
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

ASPEN TECHNOLOGY, INC.
(Exact name of registrant as specified in its charter)

DELAWARE	04-2739697
(State or other jurisdiction	(I.R.S. employer
of incorporation or organization)	identification number)

TEN CANAL PARK
CAMBRIDGE, MASSACHUSETTS 02141
(617) 949-1000
(Address, including zip code, and telephone number, including area code, of
registrant's principal executive offices)

LAWRENCE B. EVANS
Chairman of the Board and Chief Executive Officer
ASPEN TECHNOLOGY, INC.
Ten Canal Park
Cambridge, Massachusetts 02141
(617) 949-1000
(Name, address, including zip code, and telephone number,
including area code, of agent for service)

Copies to:

STEPHEN J. DOYLE, ESQ.	MARK L. JOHNSON, ESQ.
Vice President, General Counsel,	FOLEY, HOAG & ELIOT LLP
Chief Legal Officer and Secretary	One Post Office Square
ASPEN TECHNOLOGY, INC.	Boston, Massachusetts 02109
Ten Canal Park	
Cambridge, Massachusetts 02141	

Approximate date of commencement of proposed sale to the public: As soon
as practicable after this Registration Statement becomes effective.

If the only securities being registered on this Form are being offered
pursuant to dividend or interest reinvestment plans, please check the following
box. []

If any of the securities being registered on this Form are to be offered
on a delayed or continuous basis pursuant to Rule 415 under the Securities Act
of 1933, other than securities offered only in connection with dividend or
interest reinvestment plans, check the following box. [X]

If this Form is filed to register additional securities for an offering
pursuant to Rule 462(b) under the Securities Act, please check the following box
and list the Securities Act registration statement number of the earlier

effective registration statement for the same offering. [] _____

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. [] _____

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. [] _____

CALCULATION OF REGISTRATION FEE

TITLE OF EACH CLASS OF SECURITIES TO BE REGISTERED	AMOUNT TO BE REGISTERED	PROPOSED MAXIMUM OFFERING PRICE PER SHARE	PROPOSED MAXIMUM AGGREGATE OFFERING PRICE	AMOUNT OF REGISTRATION FEE
Common Stock, \$.10 par value:				
Previously filed.....	114,000 shares	\$25.4375	\$2,899,875	\$ 856
To be registered pursuant to this Amendment.....	207,532 shares	7.0000 (1)	1,452,724 (1)	429
Totals	321,532 shares			\$1,285

- (1) Estimated solely for the purpose of determining the registration fee. In accordance with Rule 457(c) under the Securities Act of 1933, the above calculation is based on the average of the high and low sale prices reported in the consolidated reporting system of the Nasdaq National Market on October 5, 1998.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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Information contained herein is subject to completion or amendment. A registration statement relating to these securities has been filed with the Securities and Exchange Commission. These securities may not be sold nor may offers to buy be accepted prior to the time the registration statement becomes effective. This prospectus shall not constitute an offer to sell or the solicitation of an offer to buy nor shall there be any sale of these securities in any State in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such State.

SUBJECT TO COMPLETION, DATED OCTOBER 9, 1998

321,532 SHARES

ASPEN TECHNOLOGY, INC.

COMMON STOCK

All of the 321,532 shares of common stock, \$.10 par value ("Common Stock"), of Aspen Technology, Inc. ("AspenTech" or the "Company") offered hereby are being sold by the Selling Stockholders named under "Selling Stockholders." The Company will not receive any of the proceeds from sales of shares by the Selling Stockholders.

The Common Stock trades on the Nasdaq National Market under the symbol "AZPN." On October 6, 1998, the closing sale price of the Common Stock, as reported by the Nasdaq National Market, was \$7.0625 per share.

The shares of Common Stock offered hereby may be sold from time to time by the Selling Stockholders, or by pledges, donees, transferees or other successors in interest of the Selling Stockholders. Such sales may be made on the Nasdaq National Market, or otherwise, at prices and on terms then prevailing or at prices related to the then-current market prices, or in negotiated transactions at negotiated prices. The shares may be sold by one or a combination of the following: (a) a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction; (b) purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this Prospectus; and (c) ordinary brokerage transactions and transactions in which the broker solicits purchasers. Brokers or dealers will receive commissions or discounts from Selling Stockholders in amounts to be negotiated immediately prior to the sale. The Selling Stockholders will be responsible for any discounts, concessions, commissions or other compensation due to any broker or dealer in connection with the sale of any of the shares offered hereby. All of the other expenses of this offering, estimated at \$8,000, will be paid by the Company. See "Plan of Distribution."

SEE "RISK FACTORS" COMMENCING ON PAGE 6 FOR A DISCUSSION OF CERTAIN FACTORS THAT SHOULD BE CONSIDERED BY PROSPECTIVE PURCHASERS OF SHARES OF COMMON STOCK OFFERED HEREBY.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

, 1998

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No broker, dealer or any other person has been authorized to give any information or to make any representations in connection with this offering other than those contained in this Prospectus, and, if given or made, such information or representations must not be relied upon as having been authorized by the Company or the Selling Stockholders. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the shares of Common Stock to which it relates or an offer to, or a solicitation of, any person in any jurisdiction where such an offer or solicitation would be unlawful. Neither the delivery of this Prospectus nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Company since the date hereof or that information contained herein is correct as of any time subsequent to its date.

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AVAILABLE INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports and other information with the Securities and Exchange Commission (the "Commission"). Such reports and other information may be inspected and copies may be obtained (at prescribed rates) at the Commission's Public Reference Section, 450 Fifth Street, N.W., Room 1024, Washington D.C. 20549, and at the Commission's Regional Offices at Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661-2511 and 7 World Trade Center, Suite 1300, New York, New York 10048. Electronic filings made by the Company through the Commission's Electronic Data Gathering, Analysis and Retrieval System are publicly available through the Commission's world wide web site (<http://www.sec.gov>).

This Prospectus constitutes part of a Registration Statement on Form S-3 (the "Registration Statement") filed by the Company with the Commission under the Securities Act of 1933, as amended (the "Securities Act"). This Prospectus does not contain all of the information contained in the Registration Statement, and reference is hereby made to the Registration Statement and related exhibits for further information with respect to the Company and the securities offered hereby. Any statements contained herein concerning the provisions of any document are not necessarily complete, and, in such instance, reference is made to the copy of such document filed as an exhibit to the Registration Statement or otherwise filed with the Commission. Each such statement is qualified in its entirety by such reference.

INFORMATION INCORPORATED BY REFERENCE

The following documents heretofore filed by the Company with the Commission pursuant to the Exchange Act are incorporated herein by reference: (1) Annual Report on Form 10-K for the fiscal year ended June 30, 1998; and (2) Current Reports on Form 8-K dated October 2, 1998 and October 5, 1998.

All reports and other documents subsequently filed by the Company pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of this Prospectus and prior to the termination of the offering made hereby shall be deemed to be incorporated by reference herein and to be a part hereof from the date of the filing of such reports and documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Prospectus to the extent that a statement contained herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of the Registration Statement or this Prospectus.

Any person to whom a copy of this Prospectus is delivered may obtain, without charge, upon written or oral request, a copy of any of the documents incorporated by reference herein, except for the exhibits to such documents (other than exhibits expressly incorporated by reference into such documents). Requests for such documents should be addressed to the Manager of Investor Relations of the Company, Ten Canal Park, Cambridge, Massachusetts 02141 or

directed to the Manager of Investor Relations at either telephone number (617) 949-0100 or e-mail address invest@aspentech.com.

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PROSPECTUS SUMMARY

The following summary is qualified in its entirety by the more detailed information and financial statements, including the notes thereto, appearing elsewhere in this Prospectus or incorporated by reference herein. This Prospectus contains and incorporates by reference certain forward-looking statements that involve risks and uncertainties. See "Risk Factors" and "Forward-Looking Statements."

THE COMPANY

Aspen Technology, Inc. (the "Company" or "AspenTech") is the leading supplier of software and service solutions used by companies in the process industries to design, operate and manage their manufacturing processes. The process industries include manufacturers of chemicals, petrochemicals, petroleum products, pharmaceuticals, pulp and paper, electric power, food and beverages, consumer products, and metals and minerals. AspenTech offers a comprehensive, integrated suite of process manufacturing optimization solutions that help process manufacturers enhance profitability by improving efficiency, productivity, capacity utilization, safety and environmental compliance throughout the entire manufacturing life-cycle, from research and development to engineering, planning and scheduling, procurement, production and distribution. In addition to its software solutions, AspenTech offers systems implementation, advanced process control, real-time optimization and other consulting services through its staff of more than 450 project engineers. As part of its strategy to offer the broadest, most integrated suite of process manufacturing optimization solutions, AspenTech has acquired businesses from time to time to obtain technologies and expertise that complement or enhance its core solutions. AspenTech currently has more than 750 customers worldwide, including 44 of the 50 largest chemical companies, 17 of the 20 largest petroleum refiners and 16 of the 20 largest pharmaceutical companies.

AspenTech believes its customers increasingly view their investments in its solutions as strategic because of the substantial potential economic benefits these solutions offer and the broad range of production issues they address. The Company's competitive advantage is based upon its technology leadership, broad suite of integrated solutions and substantial process industry expertise. AspenTech believes that, through its research and development and strategic acquisitions and partnerships, it has established itself as the technology leader among providers of process manufacturing optimization solutions. The Company's technologies have been applied to create what the Company believes is the most complete suite of integrated software and service solutions available for the design, operation and management of manufacturing processes in the process industries. Over the past 17 years, AspenTech has developed a significant base of chemical engineering and process manufacturing experience and knowledge, which it has enhanced through extensive interaction with customers that have performed millions of simulations using AspenTech's software. To complement its software expertise, AspenTech has assembled a large engineering team that the Company believes provides an important source of competitive differentiation.

AspenTech's principal objective is to extend its leadership in providing process management optimization solutions to the process industries. Key elements of the Company's strategy to achieve this objective are to: (i) extend its technology leadership position by continuing to invest in research and development and to identify and pursue opportunities for strategic acquisitions; (ii) leverage its installed customer base in the chemical, petrochemicals, petroleum products, and pharmaceuticals industries by increasing the number of users of software currently licensed by its existing customers and by licensing complementary software and services to those customers; (iii) increase its penetration of other process industries, particularly the pulp and paper, electric power, and food and beverage industries, as well as the semiconductor industry; (iv) pursue strategic acquisitions of complementary technologies and services capabilities; and (v) selectively partner with providers of complementary products and services to supplement the Company's ability to offer enterprise-wide solutions.

The Company was incorporated as a Massachusetts corporation on August 11, 1981 and was reincorporated in Delaware on March 12, 1998. AspenTech's principal executive offices are located at Ten Canal Park, Cambridge, Massachusetts 02141, and its telephone number at that address is (617) 949-1000.

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THE OFFERING

All of the 321,532 shares of Common Stock offered hereby are being sold by the Selling Stockholders. The offered shares were issued to the Selling Stockholders pursuant to (i) the Agreement and Plan of Merger dated as of April 28, 1998 between the Company, AT Acquisition Corp., Chesapeake Decision Sciences, Inc. ("Chesapeake") and Dr. Thomas E. Baker (the former principal stockholder of Chesapeake), under which 307,532 of the offered shares were issued as part of the consideration exchanged for the outstanding capital stock of Chesapeake, and (ii) the Share Exchange Agreement dated as of May 29, 1998 (the "Treiber Agreement") between the Company, Treiber Controls Inc. ("Treiber") and Dr. Steven Treiber (the sole former stockholder of Treiber), under which 14,000 of the offered shares were issued as part of the consideration exchanged for the outstanding capital stock of Treiber. The 14,000 shares are currently held in escrow pursuant to the indemnification provisions of the Treiber Agreement, and the net proceeds of those shares will be deposited in escrow in lieu of those shares.

Under an Amended and Restated Declaration of Registration Rights adopted by the Company in favor of the former stockholders of Chesapeake (the "Chesapeake Declaration") and the Company's agreement with Dr. Steven Treiber, the Company is obligated to use its best efforts to keep the Registration Statement in effect until (a) a period of ninety days has elapsed since the effective date of the Registration Statement or (b) all of the shares offered hereby have been sold hereunder. The Company may elect, in its sole discretion, to maintain the effectiveness of the Registration Statement for more than ninety days in the event a portion or all of the shares offered hereby have not been sold.

The Company will not receive any of the proceeds from sales of shares by the Selling Stockholders. See "Use of Proceeds."

"ASPENTECH" is a registered trademark of the Company.

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RISK FACTORS

In addition to the other information in this Prospectus, the following risk factors should be considered in evaluating the Company and its business.

FLUCTUATIONS IN QUARTERLY OPERATING RESULTS AND CASH FLOW

The Company's operating results and cash flow have fluctuated in the past and may fluctuate significantly in the future as a result of a variety of factors, including purchasing patterns, timing of introductions of new solutions and enhancements by the Company and its competitors, and fluctuating economic

conditions. Because license fees for the Company's software products are substantial and the implementation of the Company's solutions often requires the services of the Company's engineers over an extended period of time, the sales process for the Company's solutions is lengthy and can exceed one year. Accordingly, software revenue is difficult to predict, and the delay of any order could cause the Company's quarterly revenues to fall substantially below expectations. Moreover, to the extent that the Company succeeds in shifting customer purchases away from individual software solutions and toward integrated suites of its software and service solutions, the likelihood of delays in ordering may increase and the effect of any delay may become more pronounced.

The Company ships software products within a short period after receipt of an order and usually does not have a material backlog of unfilled orders of software products. Consequently, revenues from software licenses in any quarter are substantially dependent on orders booked and shipped in that quarter. Historically, a majority of each quarter's revenues from software licenses has been derived from license agreements that have been consummated in the final weeks of the quarter. Therefore, even a short delay in the consummation of an agreement may cause revenues to fall below expectations for that quarter. Since the Company's expense levels are based in part on anticipated revenues, the Company may be unable to adjust spending in a timely manner to compensate for any revenue shortfall and any revenue shortfalls would likely have a disproportionately adverse effect on net income. The Company expects that these factors will continue to affect its operating results for the foreseeable future.

Prior to fiscal 1996, the Company experienced a net loss for the first quarter of each fiscal year, in part because a substantial portion of the Company's total revenues is derived from countries other than the United States where business is slow during the summer months and also in part because of the timing of renewals of software licenses. Although the Company generated a profit for the first quarter of each of fiscal 1997 and fiscal 1998, it incurred a net loss for the first quarter of fiscal 1999 and the Company expects that it will continue to experience declines in total revenues and net income in the first fiscal quarter as compared to the immediately preceding fiscal quarter. Because of the foregoing factors, the Company believes that period-to-period comparisons of its operating results are not necessarily meaningful and should not be relied upon as indications of future performance.

Due to all of the foregoing factors, it is possible that in one or more future quarters the Company's operating results will be below the expectations of public market analysts and investors. In such event, the price of the Common Stock would likely be materially adversely affected. As a result principally of slower-than-anticipated growth in the Company's services revenue and higher-than-expected levels of expenses throughout the AspenTech organization in the fiscal quarter ended June 30, 1998, the Company's operating results for the fiscal quarter and fiscal year ended June 30, 1998 were below the expectations of certain public market analysts and investors. In addition, on October 5, 1998, the Company announced that its operating results for the fiscal quarter ended September 30, 1998 were expected to be below its plan. The Company is in the process of reassessing its business prospects for the remainder of fiscal 1999. The Company believes that revenue and earnings will be significantly reduced from previously anticipated levels. From July 27, 1998, the date on which the Company preliminarily announced its results for the fiscal quarter and year ended June 30, 1998, through the close of business on October 6, 1998, the price per share of Common Stock, as reported by the Nasdaq National Market, decreased from \$48.25 to \$7.0625. See "Litigation."

The Company derives a substantial portion of its total revenues from service engagements and a majority of these engagements have been undertaken on a fixed-price basis. The Company bears the risk of cost overruns and inflation in connection with fixed-price engagements, and as a result, any of these engagements may be unprofitable.

The Company derives a substantial portion of its total revenues from services, particularly projects involving advanced process control and optimization and similar projects. These projects can be extremely complex and in general only highly qualified, highly educated project engineers have the necessary training and skills to complete these projects successfully. In order to continue to staff its current and future projects, the Company will need to attract, motivate and retain a significant number of highly qualified, highly educated chemical and other project engineers. The Company primarily hires as project engineers individuals who have obtained a doctoral or master's degree in chemical engineering or a related discipline or who have significant relevant industry experience. As a result, the pool of potential qualified employees is relatively small, and the Company faces significant competition for these employees, from not only the Company's direct competitors but also the Company's clients, academic institutions and other enterprises. Many of these competing employers are able to offer potential employees significantly greater compensation and benefits or more attractive lifestyle choices, career paths or geographic locations than the Company. The failure to recruit and retain a significant number of qualified project engineers could have a material adverse effect on the Company's business, operating results and financial condition. Moreover, increasing competition for these engineers may also result in significant increases in the Company's labor costs, which could have a material adverse effect on the Company's business, operating results and financial condition.

INTEGRATION OF CHESAPEAKE AND OTHER RECENTLY ACQUIRED COMPANIES

Through its acquisitions of Chesapeake and several smaller companies in 1998, the Company has expanded its product and service offerings, has entered new markets and has increased its scope of operations and the number of its employees. The successful and timely integration of Chesapeake and these other companies into the Company's operations is critical to the Company's future financial performance. This integration will require that the Company, among other things, integrate the companies' software products and technologies, retain key employees, assimilate diverse corporate cultures, integrate management information systems, consolidate the acquired operations and manage geographically dispersed operations, each of which could pose significant challenges. To succeed in the market for supply chain management solutions, the Company must also invest additional resources, primarily in the areas of sales and marketing, to extend name recognition and increase market share. The diversion of the attention of management created by the integration process, any disruptions or other difficulties encountered in the integration process, and unforeseen liabilities or unanticipated problems with the acquired businesses could have a material adverse effect on the business, operating results and financial condition of the Company. The difficulty of combining these companies may be increased by the need to integrate personnel, and changes effected in the combination may cause key employees to leave. There can be no assurance that these acquisitions will provide the benefits expected by the Company or that the Company will be able to integrate and develop the operations of Chesapeake and these other companies successfully. Any failure to do so could have a material adverse effect on the Company's business, operating results and financial condition.

COMPETITION

The Company faces three primary sources of competition: commercial vendors of software products for one or more elements in the design, operation and management of manufacturing processes; vendors of hardware that offer software solutions in order to add value to their proprietary DCS; and large companies in the process industries that have developed their own proprietary software solutions. Because of the breadth of its software and service offerings, the Company faces competition from different vendors depending on the solution in question. The Company competes with respect to the largest number of its solutions with Simulation Sciences, Inc., a subsidiary of Siebe plc. With respect to particular software solutions, the Company also competes with Chemstations, Inc., Hyprotech, Ltd. (a subsidiary of AEA Technology plc), The Foxboro Company and Wonderware Corporation (both of which are subsidiaries of Siebe plc), OSI Software, Inc., the Simcon division of ABB Asea Brown Boveri (Holding) Ltd., and several smaller competitors, such as Pavilion Technologies, Inc.

With the acquisition of Chesapeake, the Company now competes with established commercial vendors of supply chain management software, including i2 Technologies, Inc. and Manugistics Group, Inc. A number of vendors of ERP software products, such as Baan Company N.V., J.D. Edwards Inc., Oracle Corporation, PeopleSoft, Inc., and SAP A.G., have announced their intentions to enter or expand their existing presence in the market for supply chain management solutions. The Company also expects to encounter increasing competition from DCS solution vendors, such as Honeywell Inc., as they expand their software and service offerings to include additional aspects of process manufacturing. Moreover, in recent years, there has been consolidation in the markets in which the Company competes that has expanded the breadth of product and service offerings by certain of the Company's competitors, such as the acquisitions by Siebe plc of Simulation Sciences, Inc. and Wonderware Corporation. As a result of this consolidation and the expansion of DCS and ERP vendors into additional markets, the Company from time to time may compete with divisions of companies with which it collaborates on other occasions, such as Honeywell Inc. and Siebe plc. There can be no assurance that the Company's efforts to compete and cooperate simultaneously with these or other companies will be successful. The further consolidation of existing competitors or the emergence of new competitors could have a material adverse effect on the Company's business, operating results and financial condition. Certain competitors also supply related hardware products to existing and potential customers of the Company and may have established relationships that afford those competitors an advantage in supplying software and services to those customers. The Company's continued success depends on its ability to compete effectively with its commercial competitors and to persuade prospective customers to use the Company's products and services instead of, or in addition to, software developed internally or services provided by their own personnel. In light of these factors, there can be no assurance that the Company will be able to maintain its competitive position.

RISKS ASSOCIATED WITH FUTURE ACQUISITIONS

An element of the Company's business strategy is to continue to pursue strategic acquisitions that will provide it with complementary products, services and technologies and with additional engineering personnel. The identification and pursuit of these acquisition opportunities and the integration of acquired personnel, products, technologies and businesses require a significant amount of management time and skill. There can be no assurance that the Company will be able to identify suitable acquisition candidates, consummate any acquisition on acceptable terms or successfully integrate any acquired business into the Company's operations. In light of the consolidation trend in the Company's industry, the Company expects to face competition for acquisition opportunities, which may substantially increase the cost of any acquisition consummated by the Company. There can also be no assurance that any future acquisition will not have a material adverse effect upon the Company's operating results as a result of non-recurring charges associated with the acquisition or as a result of integration problems in the fiscal quarters following consummation of the acquisition. Acquisitions may also expose the Company to additional risks, including diversion of management's attention, failure to retain key acquired personnel, assumption of legal or other liabilities and contingencies, and amortization of goodwill and other acquired intangible assets, some or all of which could have a material adverse effect on the Company's business, operating results and financial condition. Moreover, customer dissatisfaction with, or problems caused by, the performance of any acquired technologies could have a material adverse impact on the reputation of the Company as a whole. In addition, there can be no assurance that acquired businesses will achieve anticipated revenues and earnings. The Company may use Common Stock or Preferred Stock or may incur long-term indebtedness or a combination thereof for all or a portion of the consideration to be paid in future acquisitions. The issuance of Common Stock or Preferred Stock in acquisitions could result in dilution to existing stockholders, while the use of cash reserves or significant debt financing to fund acquisitions could reduce the Company's liquidity.

CONCENTRATION OF REVENUES IN THE CHEMICALS, PETROCHEMICALS AND PETROLEUM INDUSTRIES

The Company derives a substantial majority of its total revenues from companies in the chemicals, petrochemicals and petroleum industries. Accordingly, the Company's future success depends upon the continued demand for process manufacturing optimization software and services by companies in these industries. The

chemicals, petrochemicals and petroleum industries are highly cyclical. The Company believes that worldwide economic downturns and pricing pressures experienced by chemical, petrochemical and petroleum companies in connection with cost-containment measures and environmental regulatory pressures have in the past led to worldwide delays and reductions in certain capital and operating expenditures by many of these companies. There can be no assurance that these industry patterns, as well as general domestic and foreign economic conditions and other factors affecting spending by companies in these industries, will not have a material adverse effect on the Company's business, operating results and financial condition.

PRODUCT DEVELOPMENT AND TECHNOLOGICAL CHANGE

The market for software and services for process manufacturing optimization is characterized by rapidly changing technology and continuing improvements in computer hardware, operating systems, programming tools, programming languages and database technology. The Company's future success will depend on its ability to enhance its current software products and services, integrate its current and future software offerings, modify its products to operate on additional or new operating platforms or systems, and develop in a timely and cost-effective manner new software and services that meet changing market conditions, including evolving customer needs, new competitive software and service offerings, emerging industry standards and changing technology. The Company has announced its intention to further integrate its software products with each other and to integrate those products with ERP, DCS and other business software solutions. The Company believes additional development will be necessary before its products are fully integrated with each other and with these other solutions, particularly with respect to ERP solutions. In the past, the Company has experienced delays in the development and enhancement of new and existing products, particularly the Windows version of Aspen Plus, and has on occasion postponed scheduled delivery dates for certain of its products. There can be no assurance that the Company will be able to meet customers' expectations with respect to product development, enhancement and integration or that the Company's software and services will otherwise address adequately the needs of customers. Like many other software products, the Company's software has on occasion contained undetected errors or "bugs." Because new releases of the Company's software products are initially installed only by a selected group of customers, any errors or "bugs" in those new releases may not be detected for a number of months after the delivery of the software. If the Company's products do not perform substantially as expected or are not accepted in the marketplace, the Company's business, operating results and financial condition would be materially adversely affected.

DEPENDENCE ON KEY PERSONNEL

The Company's future success depends to a significant extent on Lawrence B. Evans, the principal founder of the Company and its Chairman and Chief Executive Officer, its other executive officers, and certain engineering, technical, managerial and marketing personnel. The loss of the services of any of these individuals or groups of individuals could have a material adverse effect on the Company's business, operating results and financial condition. None of the Company's executive officers has entered into an employment agreement with the Company, and the Company does not have, and is not contemplating securing, any significant amount of key-person life insurance on any of its executive officers or other key employees. In addition to the need to recruit qualified project engineers, the Company believes that its future success will also depend significantly upon its ability to attract, motivate and retain additional highly skilled technical, managerial and marketing personnel. Competition for such personnel is intense, and there can be no assurance that the Company will be successful in attracting, motivating and retaining the personnel it requires to continue to grow and operate profitably.

PRODUCT LIABILITY

The sale and implementation of certain of the Company's software products and services, particularly in the areas of advanced process control and optimization, may entail the risk of product liability claims. The Company's software products and services are used in the design, operation and management of manufacturing processes at

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large facilities, and any failure of the software at those facilities could result in significant claims for damages or for violations of environmental, safety and other laws and regulations. The Company's agreements with its customers generally contain provisions designed to limit the Company's exposure to potential product liability claims. It is possible, however, that the limitation of liability provisions in the Company's agreements may not be effective as a result of federal, state or local laws or ordinances or unfavorable judicial decisions. A substantial product liability claim against the Company could have a material adverse effect upon the Company's business, operating results and financial condition.

DEPENDENCE ON PROPRIETARY TECHNOLOGY

The Company regards its software as proprietary and relies on a combination of copyright, patent, trademark and trade secret laws, license and confidentiality agreements, and software security measures to protect its proprietary rights. AspenTech has United States patents for the expert guidance system in its proprietary graphical user interface, the simulation and optimization methods in its optimization software, a process flow diagram generator in its planning and scheduling software, and a process simulation apparatus in its polymers software. The Company has registered or has applied to register certain of its significant trademarks in the United States and in certain other countries. The Company generally enters into non-disclosure agreements with its employees and customers, and historically has restricted access to its software products' source codes, which it regards as proprietary information. In a few cases, the Company has provided copies of the source code for certain products to customers solely for the purpose of special customization of the products and has deposited copies of the source code for certain products in third-party escrow accounts as security for on-going service and license obligations. In these cases, the Company relies on nondisclosure and other contractual provisions to protect its proprietary rights.

The laws of certain countries in which the Company's products are licensed do not protect the Company's products and intellectual property rights to the same extent as the laws of the United States. The laws of many countries in which the Company licenses its products protect trademarks solely on the basis of registration. The Company currently possesses a limited number of trademark registrations in certain foreign jurisdictions and does not possess, and has not applied for, any foreign copyright or patent registrations. In fiscal 1996, fiscal 1997 and fiscal 1998, the Company derived approximately 42.0%, 50.0% and 45.4% of its total revenues, respectively, from customers outside the United States. There can be no assurance that the steps taken by the Company to protect its proprietary rights will be adequate to deter misappropriation of its technology or independent development by others of technologies that are substantially equivalent or superior to the Company's technology. Any such misappropriation of the Company's technology or development of competitive technologies could have a material adverse effect on the Company's business, operating results and financial condition. The Company could incur substantial costs in protecting and enforcing its intellectual property rights. Moreover, from time to time third parties may assert patent, trademark, copyright and other intellectual property rights to technologies that are important to the Company. In such an event, the Company may be required to incur significant costs in litigating a resolution to the asserted claims. There can be no assurance that such a resolution would not require that the Company pay damages or obtain a license of a third party's proprietary rights in order to continue licensing its products as currently offered or, if such a license is required, that it will be available on terms acceptable to the Company, if at all.

MANAGEMENT OF GROWTH

The Company has experienced substantial growth in recent years in the number of its employees, the scope of its operating and financial systems, and the geographic area of its operations. The Company's operations have expanded significantly through both internally generated growth and acquisitions. This growth has resulted in increased responsibilities for the Company's management. To manage its growth effectively, the Company must continue to expand its management team, attract, motivate and retain employees, including qualified project engineers, and implement and improve its operating and financial systems. There can be no assurance that the

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Company's current management systems will be adequate or that the Company will be able to manage the Company's recent or future growth successfully. Any failure to do so could have a material adverse effect on the Company's business, operating results and financial condition.

INTERNATIONAL OPERATIONS

In fiscal 1996, fiscal 1997 and fiscal 1998, the Company derived approximately 42.0%, 50.0% and 45.4% of its total revenues, respectively, from customers outside the United States. The Company anticipates that revenues from customers outside the United States will continue to account for a significant portion of its total revenues for the foreseeable future. The Company's operations outside the United States are subject to additional risks, including unexpected changes in regulatory requirements, exchange rates, tariffs and other barriers, political and economic instability, difficulties in managing distributors or representatives, difficulties in staffing and managing foreign subsidiary operations, difficulties or delays in translating products and product documentation into foreign languages, and potentially adverse tax consequences. In addition, the Company currently is unable to determine the effect, if any, that recent economic downturns in Asia, particularly Japan, or the adoption and use of the euro, the single European currency to be introduced in January 1999, will have on the Company's business. There can be no assurance that any of these factors will not have a material adverse effect on the Company's business, operating results and financial condition.

The impact of future exchange rate fluctuations on the Company's financial condition and operating results cannot be accurately predicted. In recent years, the Company has increased the extent to which it denominates arrangements with customers outside the United States in the currencies of the country in which the software or services are provided. From time to time the Company has engaged in, and may continue to engage in, hedges of a significant portion of installment contracts denominated in foreign currencies. There can be no assurance that any hedging policies implemented by the Company will be successful or that the cost of such hedging techniques will not have a significant impact on the Company's business, operating results and financial condition.

DEPENDENCE ON INCREASED MARKET PENETRATION

Increased use in the process industries of software and services for process manufacturing optimization in general and of the Company's software products and services in particular is critical to the Company's future growth. The Company believes that a number of factors will determine its ability to increase market penetration. These factors include product performance, accuracy of results, reliability, breadth and integration of product offerings, scope of applications, and ease of implementation and use. Failure of the Company to achieve increased market penetration in the process industries would substantially restrict the future growth of the Company and could have a material adverse effect on the Company's business, operating results and financial condition.

YEAR 2000 COMPLIANCE

Many currently installed computer systems and software applications are designed to accept only two digit entries in the date code field used to identify years. These date code fields will need to be modified to recognize twenty-first century years. As a result, computer systems and software applications used by many companies may need to be upgraded to comply with "year 2000" requirements. Significant uncertainty exists in the software industry concerning the potential effects of failure to comply with such requirements.

The Company has developed a testing and compliance program to ascertain whether and to what extent the Company may need to update its software products to become year 2000 compliant. The Company does not intend to test or modify all prior versions of its software products, current products used on year 2000 non-compliant systems, custom applications developed by or for customers, or certain current software products that the Company plans to replace with either new software products or year 2000 compliant releases by the end of 1999.

Certain of the Company's software products are currently year 2000 compliant; however, the Company

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has not completed testing on many of the other software products that it intends to test. There can be no assurance that the Company will complete in a timely manner the testing of such software products or the development of any updates necessary to render such software products year 2000 compliant. Although the Company has obtained representations as to year 2000 compliance from the sellers of certain of its recently acquired technologies, there can be no assurance that the Company will not encounter year 2000 problems arising from these technologies or any other technologies that the Company may acquire in the future. Moreover, the ability of the Company's software products to comply with year 2000 requirements depends in part upon the availability of year 2000 compliant versions of operating systems and software applications used by or with the Company's products. Any delay in developing or offering, or the failure to develop or offer year 2000 compliant products or any necessary updates to existing products, could result in delays in the purchasing of the Company's products and services or in reduced demand for those products and services, and could also result in errors that materially impair the utility of one or more of the Company's products, any of which could have a material adverse effect on the Company's business, operating results and financial condition. Although the Company does not expect the costs associated with its year 2000 compliance program to be material, there can be no assurance that unidentified year 2000 problems will not cause the Company to incur material expenses in responding to such problems or otherwise have a material adverse effect on the Company's business, operating results and financial condition. Moreover, customer purchasing patterns may be affected by year 2000 issues as customers delay purchases in anticipation of the future release of year 2000 compliant products or releases, and as customers expend significant resources to upgrade their current software systems and applications for year 2000 compliance. These expenditures may result in reduced funds available to purchase software products such as those offered by the Company.

The Company has reviewed certain internal systems and future system plans on a preliminary basis to assess Year 2000 compliance. The Company expects that its internal system development plans will address the Year 2000 issue and will correct any existing non-compliant systems without the need to accelerate the overall information systems implementation plans. The Company believes that the cost of any modifications will not be material. The Company's ability to implement its information systems plan and to make the necessary modifications or replacements may be adversely affected by a number of factors outside the control of the Company, including the availability and cost of trained personnel and the ability of such personnel to acquire Year 2000 compliant systems and otherwise to locate and correct all relevant computer codes. The Company is also conducting an additional assessment of its systems and operations in order to more fully identify and plan for any Year 2000 risks, although it believes that its business would not be materially affected by the failure of any internal systems to be Year 2000 compliant. If there are unidentified dependencies on internal systems to operate the business, or if any required modifications are not completed on a timely basis or are more costly to implement than currently anticipated, the Company's business, financial condition or results of operations could be materially adversely affected.

NEW ACCOUNTING STANDARD

In October 1997, the American Institute of Certified Public Accountants ("AICPA") issued Statement of Position No. 97-2 ("SOP 97-2"), "Software Revenue Recognition," which the Company adopted for software license agreements entered into with customers on or after January 1, 1998. This statement provides accounting standards for software revenue recognition. The Company believes that its revenue recognition policies comply with SOP 97-2; however, unanticipated changes or new interpretations by the AICPA of SOP 97-2 could require changes in the Company's revenue recognition practices, which could have a material adverse effect on the Company's operating results and financial condition.

POTENTIAL VOLATILITY OF PRICE OF COMMON STOCK

The equity markets have from time to time experienced extreme price and volume fluctuations, particularly in the high technology sector, and those fluctuations have often been unrelated to the operating performance of

particular companies. In addition, factors such as the financial performance of the Company, announcements of

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technological innovations or new products by the Company or its competitors, as well as market conditions in the computer software or hardware industries, may have a significant impact on the market price of the Common Stock. From July 27, 1998, the date on which the Company preliminarily announced its results for the fiscal quarter and year ended June 30, 1998, through the close of business on October 6, 1998, the price per share of Common Stock, as reported by the Nasdaq National Market, decreased from \$48.25 to \$7.0625. See "--Fluctuations in Quarterly Operating Results and Cash Flow" and "Litigation."

EFFECT OF CERTAIN CHARTER AND BY-LAW PROVISIONS AND ANTI-TAKEOVER PROVISIONS; POSSIBLE ISSUANCES OF PREFERRED STOCK; STOCKHOLDER RIGHTS PLAN

The Company's Certificate of Incorporation, its By-Laws and certain Delaware laws contain provisions that may discourage acquisition bids for the Company and that may deprive stockholders of certain opportunities to receive a premium for their shares as part of an acquisition of the Company. Preferred Stock may be issued by the Company in the future without stockholder approval and upon such terms as the Board of Directors may determine. The rights of the holders of Common Stock will be subject to, and may be adversely affected by, the rights of the holders of any Preferred Stock that may be issued in the future. The issuance of Preferred Stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, a majority of the outstanding stock of the Company. The Company has adopted a stockholder rights plan, which may deter or delay attempts to acquire the Company or accumulate shares of Common Stock. Except for the stockholder rights plan, the Company has no present plans to designate or issue any shares of Preferred Stock.

LITIGATION

On October 5, 1998, a purported class action lawsuit was filed in the United States District Court for the District of Massachusetts against the Company and certain of its officers and directors on behalf of purchasers of the Company's common stock between April 28, 1998 and October 2, 1998. The lawsuit seeks an unspecified amount of damages and claims violations of Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, alleging that the defendants issued a series of materially false and misleading statements concerning the Company's financial condition, its operations and integration of several acquisitions. The Company believes it has meritorious legal defenses to the lawsuit and intends to defend vigorously against this action. The Company is currently unable, however, to determine whether resolution of this matter will have a material adverse impact on the Company's financial position or results of operations, or reasonably estimate the amount of the loss, if any, that may result from resolution of this matter.

FORWARD-LOOKING STATEMENTS

This Prospectus contains and incorporates by reference certain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, which are intended to be covered by the safe harbors created thereby. For this purpose, any statements contained or incorporated by reference herein that are not statements of historical fact may be deemed to be forward-looking statements. Without limiting the foregoing, the words "believes," "anticipates," "plans," "expects," and similar expressions are intended to identify forward-looking statements. Readers are cautioned that all forward-looking statements involve risks and uncertainties, many of which are beyond the Company's control, including the factors set forth under "Risk Factors." Although the Company believes that the assumptions underlying the forward-looking statements contained or incorporated by reference herein are reasonable, any of the assumptions could be inaccurate and there can be no assurance that actual results will be the same as those indicated by the forward-looking statements included or incorporated by reference in this Prospectus. In light of the significant uncertainties inherent in the

forward-looking statements included herein, the inclusion or incorporation by reference of such information should not be regarded as a representation by the Company or any other person that the objectives and plans of the Company will be achieved. Moreover, the Company assumes no obligation to update these forward-looking statements to reflect actual results, changes in assumptions or changes in other factors affecting such forward-looking statements.

USE OF PROCEEDS

The Company will not receive any proceeds from the sale of Common Stock by the Selling Stockholders, nor will any such proceeds be available for use by the Company or otherwise for the Company's benefit. See "Selling Stockholders."

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SELLING STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of Common Stock by the Selling Stockholders as of September 1, 1998 and as adjusted to reflect the sale of the shares of Common Stock offered hereby.

NAME	SHARES BENEFICIALLY OWNED PRIOR TO OFFERING (1)		NUMBER OF SHARES BEING OFFERED	SHARES TO BE BENEFICIALLY OWNED AFTER OFFERING IF ALL SHARES SOLD (1)	
	NUMBER	PERCENT		NUMBER	PERCENT
Thomas E. Baker.....	1,927,820 (2)	7.7%	200,000	1,727,820 (2)	6.9%
Donald E. Shobrys.....	233,725 (3)	*	53,466	180,259 (3)	*
Steven Treiber.....	140,000	*	14,000 (4)	126,000 (5)	*
David L. Linkin.....	113,214 (6)	*	15,843	97,371 (6)	*
Dwight E. Collins.....	88,852 (7)	*	9,901	78,951 (7)	*
Jeffrey B. Howard.....	82,337 (8)	*	11,881	70,456 (8)	*
Laura H. Rhoden.....	60,168 (9)	*	3,960	56,208 (9)	*
Christopher V. Jones..	35,644	*	11,881	23,763	*
Joseph F. Faccenda....	2,942 (10)	*	600	2,342 (10)	*

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* Percentage of shares beneficially owned is less than 1.0%.

(1) Unless otherwise noted, each person or group identified possesses sole voting and investment power with respect to shares, subject to community property laws where applicable. Shares not outstanding but deemed beneficially owned by virtue of the right of a person or group to acquire them within 60 days are treated as outstanding only for purposes of determining the number of and percent owned by such person or group. As of September 1, 1998, there were 24,902,218 shares of Common Stock outstanding.

(2) Includes 17,822 shares held by Mr. Baker's wife and 71,287 shares held by a trust for the benefit of Mr. Baker's children. Also includes 103,034 shares and 24,782 shares held in the Chesapeake Decision Sciences, Inc. Employee Stock Ownership Plan and Trust effective January 1, 1987, as amended and restated effective January 1, 1989 (the "Chesapeake ESOP") on behalf of Mr. Baker and Mr. Baker's wife, respectively. All such shares were acquired on May 27, 1998 in exchange for shares of capital stock of Chesapeake.

(3) Includes 73,329 shares held in on behalf of Mr. Shobrys.

- (4) All of these 14,000 shares are currently held in escrow pursuant to the indemnification provisions of the Treiber Agreement, and the net proceeds of those shares will be deposited in escrow in lieu of those shares.
- (5) All of these 126,000 shares have been registered under a registration statement on Form S-3 (registration no. 333-61121) declared effective by the Commission on August 25, 1998.
- (6) Includes 65,689 shares held in the Chesapeake ESOP on behalf of Mr. Linkin.
- (7) Includes 59,149 shares held in the Chesapeake ESOP on behalf of Mr. Collins.
- (8) Includes 46,693 shares held in the Chesapeake ESOP on behalf of Mr. Howard.
- (9) Includes 48,287 shares held in the Chesapeake ESOP on behalf of Ms. Rhoden.
- (10) Includes 1,141 shares held in the Chesapeake ESOP on behalf of Mr. Faccenda.

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PLAN OF DISTRIBUTION

This Prospectus and the Registration Statement are in furtherance of a "shelf" registration pursuant to Rule 415 promulgated by the Commission under the Securities Act. Under the Chesapeake Declaration and the Company's agreement with Dr. Steven Treiber,, the Company is obligated to use its best efforts to keep the shelf registration in effect until (a) a period of ninety days has elapsed since the effective date of the Registration Statement or (b) all of the shares offered hereby have been sold hereunder. The Company may elect, in its sole discretion, to maintain the effectiveness of the Registration Statement for more than ninety days in the event a portion or all of the shares offered hereby have not been sold.

The shares offered hereby may be sold from time to time by the Selling Stockholders, or by pledges, donees, transferees or other successors in interest of the Selling Stockholders. Such sales may be made on the Nasdaq National Market, or otherwise, at prices and on terms then prevailing or at prices related to the then-current market prices, or in negotiated transactions at negotiated prices. The shares may be sold by one or a combination of the following: (a) a block trade in which the broker or dealer so engaged will attempt to sell the shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction; (b) purchases by a broker or dealer as principal and resale by such broker or dealer for its account pursuant to this Prospectus; and (c) ordinary brokerage transactions and transactions in which the broker solicits purchasers. In effecting sales, brokers or dealers engaged by the Selling Stockholders may arrange for other brokers or dealers to participate. Brokers or dealers will receive commissions or discounts from Selling Stockholders in amounts to be negotiated immediately prior to the sale. The Selling Stockholders and any broker-dealers that participate in the distribution may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act, and any commission received by them and any profit on the resale of shares sold by them may be deemed to be underwriting discounts and commissions.

Upon the Company being notified by the Selling Stockholders that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer, a supplemented prospectus will be filed, if required, pursuant to Rule 424(c) under the Securities Act, setting forth (i) the name of each of the participating broker-dealers, (ii) the number of shares involved, (iii) the price at which such shares were sold, (iv) the commissions paid or discounts or concessions allowed to such broker-dealers, where applicable, (v) a statement to the effect that such broker-dealers did not conduct any investigation to verify the information set out or incorporated by reference in this Prospectus, and (vi)

other facts material to the transaction.

LEGAL MATTERS

The validity of the shares of Common Stock offered hereby has been passed upon for the Company by Foley, Hoag & Eliot LLP, Boston, Massachusetts.

EXPERTS

The consolidated balance sheets of the Company as of June 30, 1997 and 1998 and the related consolidated statements of operations, stockholders' equity and cash flows for the years ended June 30, 1996, 1997 and 1998 incorporated by reference herein from the Company's Annual Report on Form 10-K for the fiscal year ended June 30, 1998 have been audited by Arthur Andersen LLP, independent public accountants, to the extent and for the periods indicated in their reports included in such Form 10-K, and are incorporated by reference herein in reliance upon the authority of that firm as experts in giving those reports.

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PART II INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION

The following table sets forth the various expenses to be paid by the Registrant in connection with the issuance and distribution of the shares of Common Stock being registered. All amounts shown are estimates except for the Securities and Exchange Commission registration fee. The Registrant will pay all expenses in connection with the distribution of the shares of Common Stock being sold by the Selling Stockholders (including fees and expenses of counsel for the Company), except for any discounts, concessions, commissions or other compensation due to any broker or dealer in connection with the sale of any of the shares offered hereby.

Securities and Exchange Commission registration fee.....	\$1,285
Accounting fees and expenses.....	1,000
Legal fees and expenses.....	4,500
Printing, EDGAR formatting and mailing expenses.....	500
Miscellaneous.....	715

Total.....	\$8,000
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ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS

Article SEVENTH of the Registrant's Certificate of Incorporation, as amended (the "Certificate of Incorporation"), provides that no director of the Registrant shall be personally liable for any monetary damages for any breach of fiduciary duty as a director, except to the extent that the Delaware General Corporation Law prohibits the elimination or limitation of liability of directors for breach of fiduciary duty.

Article EIGHTH of the Certificate of Incorporation provides that a director or officer of the Registrant shall be indemnified by the Registrant against (a) all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement incurred in connection with any litigation or other legal proceeding (other than an action by or in the right of the Registrant) brought against him or her by virtue of his or her position as a director or officer of the Registrant if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Registrant, and, with respect to any criminal action or proceeding, had no reasonable cause to

believe his or her conduct was unlawful and (b) all expenses (including attorneys' fees) and amounts paid in settlement incurred in connection with any action by or in the right of the Registrant brought against him or her by virtue of his or her position as a director or officer of the Registrant if he or she acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the best interests of the Registrant, except that no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the Registrant, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that a director or officer has been successful, on the merits or otherwise, including the dismissal of an action without prejudice, he or she is required to be indemnified by the Registrant against all expenses (including attorneys' fees) incurred in connection therewith. Expenses shall be advanced to a director or officer at his or her request, provided that he or she undertakes to repay the amount advanced if it is ultimately determined that he or she is not entitled to indemnification for such expenses.

Indemnification is required to be made unless the Registrant determines that the applicable standard of conduct required for indemnification has not been met. In the event of a determination by the Registrant that the director or officer did not meet the applicable standard of conduct required for indemnification, or if the Registrant fails to make an indemnification payment within sixty days after such payment is claimed by such person, such person

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is permitted to petition the court to make an independent determination as to whether such person is entitled to indemnification. As a condition precedent to the right of indemnification, the director or officer must give the Registrant notice of the action for which indemnity is sought and the Registrant has the right to participate in such action or assume the defense thereof.

Article EIGHTH of the Certificate of Incorporation further provides that the indemnification provided therein is not exclusive, and provides that in the event that the Delaware General Corporation Law is amended to expand the indemnification permitted to directors or officers the Registrant must indemnify those persons to the fullest extent permitted by such law as so amended.

Section 145 of the Delaware General Corporation Law provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation and certain other persons serving at the request of the corporation in related capacities against amounts paid and expenses incurred in connection with an action or proceeding to which he or she is or is threatened to be made a party by reason of such position, if such person shall have acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal proceeding, if such person had no reasonable cause to believe his or her conduct was unlawful; provided that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to any matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the adjudicating court determines that such indemnification is proper under the circumstances.

The Company maintains a directors' and officers' insurance policy that covers certain liabilities of directors and officers of the Company, including liabilities under the Securities Act. The Company maintains a general liability insurance policy that covers certain liabilities of directors and officers of the Company arising out of claims based on acts or omissions in their capacities as directors or officers.

ITEM 16. EXHIBITS

EXHIBIT NO.
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5.1 Opinion of Foley, Hoag & Eliot LLP

- 23.1 Consent of Arthur Andersen LLP
- 23.2 Consent of Foley, Hoag & Eliot LLP (included in Exhibit 5.1)
- 24.1* Powers of Attorney (included on page II-4 of Registration Statement on Form S-3 as initially filed)
- 99.1 Amended and Restated Declaration of Registration Rights dated as of April 27, 1998, adopted by Aspen Technology, Inc. for the benefit of former stockholders of Chesapeake Decision Sciences, Inc.

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* Filed previously.

ITEM 17. UNDERTAKINGS

(a) The undersigned Registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement;
 - (i) To include any prospectus required to Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the

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aggregate, represent a fundamental change in the information set forth in the Registration Statement; and

- (iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3, Form S-8, or Form F-3, and the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in this Registration Statement.

- (2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
 - (3) To remove from registration, by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference to the Registration Statement shall be deemed to be a new registration statement relating to the securities

offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

- (c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Amendment No. 1 to Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Cambridge, Commonwealth of Massachusetts, as of October 8, 1998.

ASPEN TECHNOLOGY, INC.

By: /s/ LAWRENCE B. EVANS

LAWRENCE B. EVANS
Chairman of the Board and Chief
Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 1 to Registration Statement has been signed below by the following persons in the capacities indicated as of October 8, 1998.

SIGNATURE

TITLE

/s/ LAWRENCE B. EVANS Chairman of the Board and Chief Executive Officer

LAWRENCE B. EVANS (Principal Executive Officer)

/s/ LISA W. ZAPPALA Chief Financial Officer

LISA W. ZAPPALA (Principal Financial and Accounting Officer)

* Director

JOSEPH F. BOSTON

*

Director

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GRESHAM T. BREBACH, JR.

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Director

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DOUGLAS R. BROWN

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Director

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JOAN C. MCARDLE

*

Director

- -----

ALISON ROSS

*By /s/ LISA W. ZAPPALA

- -----

Attorney-in-Fact

FOLEY, HOAG & ELIOT LLP
One Post Office Square
Boston, Massachusetts 02109-2170
Telephone: (617) 832-1000
Facsimile: (617) 832-7000
Telex 940693
<http://www.fhe.com>

October 7, 1998

ASPEN TECHNOLOGY, INC.
Ten Canal Park
Cambridge, Massachusetts 02141

Ladies and Gentlemen:

We have acted as special counsel for Aspen Technology, Inc., a Delaware corporation (the "Company"), in connection with the preparation and filing with the Securities and Exchange Commission under the Securities Act of 1933, as amended, of a Registration Statement on Form S-3 (the "Registration Statement") relating to the offering of up to 321,532 shares (the "Shares") of the Company's common stock, \$.10 par value, by certain stockholders of the Company.

In arriving at the opinion expressed below, we have examined and relied on: (i) the Registration Statement; (ii) the Certificate of Incorporation of the Company, as amended; (iii) the By-Laws of the Company; and (iv) minutes of meetings of the Board of Directors of the Company, including a meeting held on April 27, 1998. In addition, we have examined and relied on the originals or copies certified or otherwise identified to our satisfaction of all such other records, documents and instruments of the Company and such other persons, and we have made such investigations of law, as we have deemed appropriate as a basis for the opinions expressed below. We have assumed the genuineness of all signatures and the authenticity of all documents submitted to us as originals and the conformity to the original documents of all documents submitted to us as certified or photostatic copies.

We express no opinion other than as to the corporation laws of the State of Delaware.

Based upon the foregoing, we are of the opinion that the Shares have been duly authorized and validly issued and are fully paid and non-assessable.

We consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to us under the heading "Legal Matters" in the prospectus forming a part of the Registration Statement.

Very truly yours,

FOLEY, HOAG & ELIOT LLP

By /s/ MARK L. JOHNSON

A Partner

CONSENT OF INDEPENDENT PUBLIC ACCOUNTANTS

As independent public accountants, we hereby consent to the incorporation by reference in this Amendment No. 1 to Registration Statement on Form S-3 of our reports included in the Annual Report on Form 10-K of Aspen Technology, Inc. for the fiscal year ended June 30, 1998 and to the reference to our firm in this Amendment No. 1 to Registration Statement.

/s/ ARTHUR ANDERSEN LLP

Boston, Massachusetts
October 7, 1998

ASPEN TECHNOLOGY, INC.

AMENDED AND RESTATED DECLARATION OF REGISTRATION RIGHTS

AMENDED AND RESTATED DECLARATION made as of September 23, 1998 (this "Declaration") by Aspen Technology, Inc., a Delaware corporation ("AspenTech"), for the benefit of stockholders of Chesapeake Decision Sciences, Inc., a New Jersey corporation ("Chesapeake"), acquiring shares of common stock of AspenTech pursuant to the Agreement and Plan of Reorganization dated as of April 28, 1998 among Aspen Technology, Inc., AT Acquisition Corp., Chesapeake and Dr. Thomas E. Baker (the "Reorganization Agreement").

1. CERTAIN DEFINED TERMS.

Capitalized terms used herein shall have the respective meanings ascribed to them in the Reorganization Agreement, unless the context requires otherwise. In addition, as used in this Declaration, the following additional terms have the following meanings:

"DEMAND UNDERWRITING" has the meaning set forth in Section 2.2.

"EXCHANGE ACT" means the Securities Exchange Act of 1934, as amended.

"FOLLOW-ON SHELF" has the meaning set forth in Section 3.2.

"FORM S-3" means such form under the Securities Act as in effect on the date hereof or any registration form under the Securities Act subsequently adopted by the SEC that similarly permits inclusion or incorporation of substantial information by reference to other documents filed by AspenTech with the SEC.

"HOLDERS" means (a) the record holders of Chesapeake Common to whom Registrable Shares are issued pursuant to the Reorganization Agreement, (b) any of such record holders' respective family members and trusts wholly or principally for the benefit of family members to whom such holders transfer record ownership of any of the Registrable Shares and (c) any participants of the ESOP to whom Registrable Shares are distributed under the ESOP and who are the record holders of those Registrable Shares.

"INDEMNIFIED PARTY" has the meaning set forth in Section 7.3.

"INDEMNIFYING PARTY" has the meaning set forth in Section 7.3.

"INITIAL SHELF" has the meaning set forth in Section 3.1.

"PIGGYBACK UNDERWRITING" has the meaning set forth in Section 2.3.

"PRO RATA SHARE" means, with respect to a Holder wishing to participate in a proposed registration hereunder, a number equal to the number of Registrable Shares to be covered by such registration multiplied by a fraction, the numerator of which shall be the total number of Registrable Shares held by such Holder and the denominator of which shall be the number of Registrable Shares held by all Holders.

"PUBLICATION DATE" means the date on which AspenTech initially publishes financial results reflecting the first thirty days of combined operations of AspenTech and Chesapeake pursuant to Section 7.4 of the Reorganization Agreement.

"REGISTRABLE SHARES" means, with respect to a Holder, (a) the shares of AspenTech Common issued to such Holder as a stockholder of Chesapeake pursuant

to the Reorganization Agreement, (b) any other securities issued by Aspen in exchange for any of such shares (but, with respect to any particular Registrable Security, only so long as it continues to be a Registrable Security) and (c) any shares of AspenTech Common issued as a dividend or distribution on account of Registrable Shares or resulting from a subdivision of outstanding Registrable Shares into a greater number of securities (by reclassification, stock split or otherwise), provided that a security that was at one time a Registrable Security shall cease to be a Registrable Security when it has been effectively registered under the Securities Act and has been disposed of pursuant to a registration statement or (b) it has been transferred and is no longer held of record by a Holder.

"SEC" means the Securities and Exchange Commission.

"SECURITIES ACT" means the Securities Act of 1933, as amended.

2. UNDERWRITTEN REGISTRATIONS.

2.1. DEMAND UNDERWRITING. If at any one time from April 1, 1999 to July 30, 1999, the Holders shall request in writing that AspenTech register under the Securities Act an aggregate of at least 500,000 Registrable Shares held by such Holders for resale in an underwritten public offering (the "Demand Underwriting"), AspenTech shall mail written notice to each other Holder of AspenTech's intention to register under the Securities Act up to a maximum of 1,000,000 Registrable Shares for resale by the Holders in an underwritten public offering, which notice shall specify the proposed managing underwriter or underwriters of the Demand Underwriting. Each such Holder may then elect to participate in the contemplated Demand Underwriting by delivering to AspenTech, within fifteen days after the date of mailing of AspenTech's notice pursuant to the preceding sentence, a written notice specifying the number of Registrable Shares (up to the number of Registrable Shares held by such Holder) such Holder wishes to have registered for resale in the Demand Underwriting. AspenTech shall have no obligation to continue with any registration process under this Section 2.1 if the number of Registrable Shares requested to be registered by the Holders actually included in an underwriting hereunder shall be less than 500,000. In the event that the number of Registrable Shares requested to be registered by the Holders shall be greater than 1,000,000, a total of 1,000,000 Registrable Shares shall be registrable pursuant to this Section 2.1 and the number of such Registrable Shares to be registered held by those Holders requesting registration of greater than their Pro Rata Shares shall be reduced, in proportion, as nearly as practicable, to each Holder's Pro Rata Share. If at least 500,000 Registrable Shares are requested to be registered by the Holders pursuant to this Section 2.1, AspenTech shall use its reasonable best efforts to prepare, file with the SEC and cause to become effective a registration statement on Form S-3 covering registration of the resale of all of the Registrable Shares properly requested to be registered pursuant to this Section 2.1 by the Holders. In no event shall the Demand Underwriting include for resale by the Holders fewer than 500,000 Registrable Shares or such lesser number of Registrable Shares as have been properly requested by the Holders to be registered for resale pursuant to this Section 2.1.

2.2 PIGGYBACK UNDERWRITINGS. If at any time or from time to time after November 29, 1998, AspenTech determines to register any shares of AspenTech Common (other than pursuant to a registration undertaken pursuant to Section 2.1), for its own account or the account of a security holder or holders for sale in an underwritten public offering, then AspenTech shall: (a) promptly give to each Holder written notice thereof; and (b) include in such registration and in the underwriting involved therein (a "Piggyback Underwriting") up to a maximum of 500,000 Registrable Shares, as specified in a written notice or notices given by any Holders within fifteen days after the date of mailing of such written notice by AspenTech. In the event that the number of Registrable Shares requested to be registered by the Holders shall be greater than 500,000, a total of 500,000 Registrable Shares shall be registrable pursuant to this Section 2.2 and the

in proportion, as nearly as practicable, to each Holder's Pro Rata Share. The provisions of this Section 2.2 shall apply only to an underwritten public offering and shall not apply to (i) a registration on Form S-4 or S-8 (or any successor form), (ii) an SEC Rule 145 transaction, (iii) a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of Registrable Shares or (iv) a registration relating solely to securities of AspenTech convertible into AspenTech Common or as to which AspenTech Common may be issued upon exercise of rights thereunder and to the AspenTech Common issuable upon conversion or exercise thereof. The provisions of this Section 2.2 shall terminate (i) if the Demand Underwriting shall have been effected or (ii) with respect to any Holder, when all of such Holder's Registrable Shares may be sold at one time pursuant to Rule 144 under the Securities Act.

3. SHELF REGISTRATIONS.

3.1. INITIAL SHELF. AspenTech shall register under the Securities Act (a) up to 107,532 shares held by all Holders other than Dr. Thomas E. Baker and his affiliates and (b) 200,000 Registrable Shares held by Dr. Baker and his affiliates, all pursuant to a registration statement on Form S-3 (the "Initial Shelf") for an offering to be made on a delayed or continuous basis pursuant to Rule 415 under the Securities Act (or any similar rule that may be adopted by the SEC) and permitting sales in ordinary course broker or dealer transactions not involving an underwritten public offering. On or before September 25, 1998 AspenTech shall deliver to each Holder (other than Dr. Baker and his affiliates) by overnight courier a written notice of the Initial Shelf. Each such Holder may then elect to participate in the Initial Shelf by delivering to AspenTech, within fifteen days after the date on which AspenTech sent such notice, a written notice specifying the number of Registrable Shares (up to the number of Registrable Shares held by such Holder) such Holder wishes to have registered for resale pursuant to the Initial Shelf. In the event that the number of Registrable Shares requested to be registered by the Holders shall be greater than 107,532, a total of 107,532 Registrable Shares shall be registrable pursuant to this Section 3.1 and the number of such Registrable Shares to be registered held by those Holders requesting registration of greater than their Pro Rata Shares shall be reduced, in proportion, as nearly as practicable, to each Holder's Pro Rata Share. AspenTech shall use its reasonable best efforts to (a) prepare and file with the SEC, as soon as practicable, on or after October 12, 1998 (or such earlier date on which all Holders, other than Dr. Baker and his affiliates, have returned their participation notices) an amendment to the registration statement for the Initial Shelf such that the registration statement, as amended, covers registration of the resale of 200,000 shares held by Dr. Baker and all of the other Registrable Shares properly requested to be registered pursuant to this Section 3.1 by Holders other than Dr. Baker and his affiliates, (b) cause the Initial Shelf registration statement, as amended, to become effective as soon as practicable thereafter and (c) subject to Section 4.2, keep the Initial Shelf registration statement continuously effective for a period of 90 days after effectiveness. In no event shall AspenTech have any obligation, except as provided in Section 4.2, to keep such registration statement in effect beyond January 4, 1999. If a Holder shall propose to sell any Registrable Shares pursuant to a registration statement filed pursuant to this Section 3.1, it shall notify AspenTech of its intent to do so at least three full business days prior to such sale. AspenTech shall not be required to effect more than one registration under this Section 3.1.

3.2. FOLLOW-ON SHELF. At any time from December 1, 1998 to January 29, 1999, the Holders may request in writing that AspenTech register under the Securities Act Registrable Shares held by such Holders for resale pursuant to a registration statement on Form S-3 (the "Follow-on Shelf") for an offering to be made on a delayed or continuous basis pursuant to Rule 415 under the Securities Act (or any similar rule that may be adopted by the SEC) and permitting sales in ordinary course brokerage or dealer transactions not involving an underwritten public offering. Within five days after receiving such a request, AspenTech shall mail written notice to each other Holder of AspenTech's intention to register under the Securities Act up to a

Follow-on Shelf. Each such Holder may then elect to participate in the contemplated Follow-on Shelf by delivering to AspenTech, within fifteen days after the date of mailing of AspenTech's notice pursuant to the preceding sentence, a written notice specifying the number of Registrable Shares (up to the number of Registrable Shares held by such Holder) such Holder wishes to have registered for resale pursuant to the Follow-on Shelf. In the event that the number of Registrable Shares requested to be registered by the Holders shall be greater than 500,000, a total of 500,000 Registrable Shares shall be registrable pursuant to this Section 3.2 and the number of such Registrable Shares to be registered held by those Holders requesting registration of greater than their Pro Rata Shares shall be reduced, in proportion, as nearly as practicable, to each Holder's Pro Rata Share. AspenTech shall use its reasonable best efforts (a) to prepare and file with the SEC, as soon as practicable, on or after January 4, 1999 (or such later date that is thirty days after the date of the delivery of written notice to AspenTech pursuant to the first sentence of this Section 3.2), a registration statement on Form S-3 covering registration of the resale of all of the Registrable Shares properly requested to be registered pursuant to this Section 3.2 by the Holders, (b) cause such registration statement to become effective as soon as practicable after filing and (c) subject to Section 4.2, keep such registration statement continuously effective through March 31, 1999. In no event shall AspenTech have any obligation to file a registration statement for the Follow-on Shelf prior to January 4, 1999 or, except as provided in Section 4.2, to keep such registration statement in effect beyond March 31, 1999. If a Holder shall propose to sell any Registrable Shares pursuant to a registration statement filed pursuant to this Section 3.2, it shall notify AspenTech of its intent to do so at least three full business days prior to such sale. AspenTech shall not be required to effect more than one registration under this Section 3.2.

3.3. FINAL SHELF. At any time from March 1, 1999 to April 30, 1999, the Holders may request in writing that AspenTech register under the Securities Act Registrable Shares held by such Holders for resale pursuant to a registration statement on Form S-3 (the "Final Shelf") for an offering to be made on a delayed or continuous basis pursuant to Rule 415 under the Securities Act (or any similar rule that may be adopted by the SEC) and permitting sales in ordinary course brokerage or dealer transactions not involving an underwritten public offering. Within five days after receiving such a request, AspenTech shall mail written notice to each other Holder of AspenTech's intention to register under the Securities Act up to a maximum of 500,000 Registrable Shares for resale by the Holders pursuant to the Final Shelf. Each such Holder may then elect to participate in the contemplated Final Shelf by delivering to AspenTech, within fifteen days after the date of mailing of AspenTech's notice pursuant to the preceding sentence, a written notice specifying the number of Registrable Shares (up to the number of Registrable Shares held by such Holder) such Holder wishes to have registered for resale pursuant to the Final Shelf. In the event that the number of Registrable Shares requested to be registered by the Holders shall be greater than 500,000, a total of 500,000 Registrable Shares shall be registrable pursuant to this Section 3.3 and the number of such Registrable Shares to be registered held by those Holders requesting registration of greater than their Pro Rata Shares shall be reduced, in proportion, as nearly as practicable, to each Holder's Pro Rata Share. AspenTech shall use its reasonable best efforts to (a) prepare and file with the SEC, as soon as practicable, on or after April 1, 1999 (or such later date that is thirty days after the date of the delivery of written notice to AspenTech pursuant to the first sentence of this Section 3.3), a registration statement on Form S-3 covering registration of the resale of all of the Registrable Shares properly requested to be registered pursuant to this Section 3.3 by the Holders, (b) cause such registration statement to become effective as soon as practicable after filing and (c) subject to Section 4.2, keep such registration statement continuously effective through June 30, 1999. In no event shall AspenTech have any obligation to file a registration statement for the Follow-on Shelf prior to April 1, 1999 or, except as provided in Section 4.2, to keep such registration statement in effect beyond June 30, 1999. If a Holder shall propose to sell any Registrable Shares pursuant to a registration statement filed pursuant to this Section 3.3, it shall notify AspenTech of its intent to do so at least three full business days prior to such sale. AspenTech shall not be required to effect more than one registration under this Section 3.3.

4. OBLIGATIONS OF ASPENTECH.

4.1. GENERAL OBLIGATIONS. In connection with registrations pursuant to Sections 2 and 3, and subject to the limitations of those Sections, AspenTech shall:

- (a) prepare and file with the SEC the registration statements in accordance with Sections 2 and 3 with respect to Registrable Shares and use its reasonable best efforts to cause such registration statements to become effective as promptly as practicable after filing and, in the case of registrations under Section 3, to keep such registration statements effective as provided therein;
- (b) prepare and file with the SEC such amendments and supplements to such registration statements and the prospectuses used in connection therewith as may be necessary, and comply with the provisions of the Securities Act with respect to the sale or other disposition of all Registrable Shares registered in such registration statements;
- (c) furnish to each Holder such number of copies of any prospectus (including any preliminary prospectus and any amended or supplemented prospectus) in conformity with the requirements of the Securities Act, and such other documents, as such Holder may reasonably request in order to effect the offering and sale of the Registrable Shares to be offered and sold, but only while AspenTech shall be required under the provisions hereof to cause the registration statement to remain current;
- (d) use its reasonable best efforts to register or qualify the Registrable Shares covered by such registration statements under the securities or blue sky laws of such jurisdictions as each Holder shall reasonably request (provided that AspenTech shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such jurisdiction where it has not been qualified); and
- (e) in connection with any registration pursuant to Section 2, enter into an underwriting agreement with reasonable and customary terms, including appropriate provisions for auditor comfort letters.

4.2. NOTIFICATION OBLIGATIONS. AspenTech shall promptly notify each Holder whose shares of Registrable Shares are covered by a registration statement hereunder:

- (a) when a prospectus or any prospectus supplement or post-effective amendment has been filed, and, with respect to the registration statements or any post-effective amendment, when the same has become effective;
- (b) of any request by the SEC or any other federal or state governmental authority during the period of effectiveness of the registration statements for amendments or supplements to the registration statements or related prospectus or for additional information relating to the registration statements,
- (c) of the issuance by the SEC or any other federal or state governmental authority of any stop order suspending the effectiveness of the registration statements or the initiation of any proceedings for that purpose,

- (d) of the receipt by AspenTech of any notification with respect to the suspension of the qualification or exemption from

qualification of any of the Registrable Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; or

- (c) of the happening of any event which makes any statement made in the registration statements or related prospectuses or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or which requires the making of any changes in the registration statements or prospectuses so that, in the case of the registration statements, they will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading, and that in the case of the prospectuses, they will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

Upon the happening of any event of the kind described in clause (b), (c), (d) or (e) above or any other event that, in the good faith judgment of AspenTech's Board of Directors, renders it advisable to suspend use of any prospectus due to pending corporate developments, public filings with the SEC or similar material events, AspenTech may suspend use of the prospectuses on written notice to the Holders (in which case each Holder shall discontinue disposition of Registrable Shares covered by a registration statement or prospectus until copies of a supplemented or amended prospectus are distributed to the Holders or until the Holders are advised in writing by the AspenTech that the use of the applicable prospectus may be resumed). Subject to the last sentence of this paragraph, any such suspension or suspensions shall be for no more than ninety days in the aggregate but no more than forty-five continuous days, provided that such time restrictions shall not apply if the happening is beyond AspenTech's reasonable control and provided further that AspenTech may suspend such use for up to thirty additional days in connection with a then-proposed underwritten public offering. AspenTech shall use its reasonable best efforts to ensure that the use of the prospectuses may be resumed as soon as practicable. AspenTech shall use its reasonable best efforts to obtain the withdrawal of any order suspending the effectiveness of a registration statement, or the lifting of any suspension of the qualification (or exemption from qualification) of any of the securities for sale in any jurisdiction, at the earliest practicable moment. AspenTech shall, upon the occurrence of any event contemplated by clause (E) above, prepare a supplement or post-effective amendment to the registration statements or a supplement to the related prospectuses or any document incorporated therein by reference or file any other required document so that, as thereafter delivered to the purchasers of the Registrable Shares being sold thereunder, such prospectuses will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. In addition to the foregoing, AspenTech may terminate the Initial Shelf, the Follow-on Shelf or the Final Shelf (as the case may be) on written notice to the Holders of Registrable Shares registered thereunder, in which case each such Holder shall discontinue dispositions of such Registrable Shares and AspenTech shall de-register any shares registered but unsold thereunder.

4.3. REPORTS UNDER EXCHANGE ACT. AspenTech agrees (a) to use its reasonable best efforts to file with the SEC in a timely manner all reports and other documents required of AspenTech under the Securities Act and the Exchange Act and (b) furnish to each Holder forthwith upon request (i) a written statement by AspenTech that it has complied with the reporting requirements of the Securities Act and the Exchange Act or that it qualifies as a registrant whose securities may be resold pursuant to Form S-3 (at any time that it so qualifies), (ii) a copy of the most recent annual report of Chesapeake and (iii) such other information as may be reasonably requested in availing each Holder of any rule or regulation of the SEC which permits the selling of any such securities pursuant to Form S-3.

5. OBLIGATIONS OF HOLDERS.

5.1 RELATING TO UNDERWRITTEN OFFERINGS. In order for any Registrable Shares of a Holder to be included in any underwritten registration pursuant to Section 2, each Holder shall provide all such information and materials to AspenTech and take all such action as may be required in order to permit AspenTech to comply with all applicable requirements of the SEC and any state securities commission and to obtain the effectiveness of and any desired acceleration of the effective date of such registration statement. Such provision of information and materials is a condition precedent to the obligations of AspenTech pursuant to Section 2, provided that AspenTech shall have used its reasonable best efforts to provide reasonable advance notice of the need for such information, materials or action and shall have afforded such Holder a reasonable opportunity to provide such materials and to take such action. Also as a condition precedent to AspenTech's obligations under Section 2, each of the Holders participating in a registered offering pursuant to Section 2, shall enter into an underwriting agreement with the underwriter or underwriter of such offering containing representations, warranties, indemnities and agreements then customarily included by selling stockholders in underwriting agreements with respect to secondary distributions. If any Holder disapproves of the terms of any such underwriting, it may elect to withdraw therefrom by written notice to AspenTech and the underwriter, but shall have no further rights under Section 2.

5.2. RELATING TO SHELF OFFERINGS. In order for any Registrable Shares of a Holder to be included in any shelf registration pursuant to Section 3, each Holder shall provide all such information and materials to AspenTech and take all such action as may be required in order to permit AspenTech to comply with all applicable requirements of the SEC and any state securities commission and to obtain the effectiveness of and any desired acceleration of the effective date of such registration statement. Such provision of information and materials is a condition precedent to the obligations of AspenTech pursuant to this Section 5.2; provided that AspenTech shall have used its reasonable best efforts to provide reasonable advance notice of the need for such information, materials or actions shall have afforded such Holder a reasonable opportunity to provide such information and materials and to take such action.

5.3. GENERAL. By exercising any rights hereunder, each Holder shall be deemed to assume all obligations of a Holder hereunder as though such Holder were a signatory hereto. AspenTech may require any Holder to execute an instrument whereby such Holder expressly assumes all obligations of such Holder hereunder as a condition precedent to any obligations of AspenTech to such Holder hereunder.

6. EXPENSES.

AspenTech shall pay all expenses incident to its performance of or compliance with this Declaration, regardless of whether any registration becomes effective, including (a) all registration and filing fees of the SEC, the National Association of Securities Dealers, Inc. and the Nasdaq Stock Market, Inc., (b) all fees and expenses incurred in complying with securities or blue sky laws (including reasonable fees and disbursements of counsel in connection with blue sky qualifications of the Registrable Shares), (c) all printing, messenger and delivery expenses, (d) all fees and expenses of AspenTech's transfer agent and registrar, (e) all fees and disbursements of AspenTech's independent public accountants and counsel and (f) all fees and expenses of any special experts retained by AspenTech in connection with any registration pursuant to the terms of this Declaration; provided, however, that the Holders shall be liable for (A) any fees or commissions of brokers, dealers or underwriters, (B) any transfer taxes and (C) any fees or expenses of consultants, financial advisors, counsel and other professionals acting on behalf of the Holders in connection with any registration pursuant to the terms of this Declaration.

7. INDEMNIFICATION.

In the event of any offering registered pursuant to this Declaration:

7.1. AspenTech will indemnify each Holder and each person controlling a Holder (within the meaning of Section 15 of the Securities Act), against all claims, losses, damages and liabilities (or actions in respect thereof), including any of the foregoing incurred in settlement of any litigation, commenced or threatened, arising out of or based on any untrue statement (or alleged untrue statement) of a material fact contained in any registration statement, prospectus, or any amendment or supplement thereto, incident to any offering registered pursuant to this Declaration, or based on any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances in which they are made, not misleading, or any violation by AspenTech of any rule or regulation promulgated under the Securities Act, or state securities laws applicable to AspenTech in connection with any such registration, and subject to Section 8c, will reimburse each such Holder, and each person controlling such Holder, for any legal and any other out-of-pocket expenses reasonably incurred in connection with investigating, preparing or defending any such claim, loss, damage, liability or action, provided that AspenTech will not be liable in any such case to the extent that any such claim, loss, damage, or liability arises out of or is based on any untrue statement or omission or alleged untrue statement or omission, made in reliance upon and in conformity with written information furnished to AspenTech by such Holder or controlling person and stated to be specifically for use therein.

7.2. Each Holder will, if Registrable Shares held by such Holder are included in the securities as to which such registration, qualification or compliance is being effected, indemnify AspenTech, each of its directors and officers and its legal counsel and independent accountants, each underwriter, if any, of AspenTech's securities covered by such a registration statement, each person who controls AspenTech or such underwriter within the meaning of Section 15 of the Securities Act, and each other such Holder, and such Holder's legal counsel and independent accountants, against all claims, losses, damages and liabilities (or actions in respect thereof) arising out of or based on any untrue statement (or alleged untrue statement) or a material fact contained in any such registration statement, prospectus, offering circular or any amendment or supplement thereto, or any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse AspenTech, such Holders, such directors, officers, legal counsel, independent accountants, underwriters or control persons for any legal or any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability or action, in each case to the extent, but only to the extent, that such untrue statement (or alleged untrue statement) or omission (or alleged omission) is made in such registration statement, prospectus, offering circular or any amendment or supplement thereto in reliance upon and in conformity with written information furnished to AspenTech by such Holder and stated to be specifically for use therein; provided, however, that the obligations of such Holders hereunder shall be several and shall be limited to an amount equal to the respective net proceeds after expenses and commissions to each such Holder of Registrable Shares sold as contemplated herein.

7.3. Each party entitled to indemnification under this Section 7.3 (the "Indemnified Party") shall give notice to the party required to provide indemnification (the "Indemnifying Party") promptly after such Indemnified Party receives written notice of any claim as to which indemnity may be sought, and shall permit the Indemnifying Party to assume the defense of any such claim or any litigation resulting therefrom, provided that counsel for the Indemnifying Party, who shall conduct the defense of such claim or litigation, shall be approved by the Indemnified Party (whose approval shall not be unreasonably withheld), and the Indemnified Party may participate in such defense at such Indemnified Party's expense, and provided further that the failure of any Indemnified Party to give notice as provided herein shall not relieve the Indemnifying Party of its obligations under this Declaration, except to the extent, but only to the extent, that the

impaired as a result of such failure to give notice. Notwithstanding the foregoing sentence, the Indemnified Party may retain its own counsel to conduct the defense of any such claim or litigation, and shall be entitled to be reimbursed by the Indemnifying Party for expenses reasonably incurred by the Indemnified Party in defense of such claim or litigation, in the event that the Indemnifying Party does not assume the defense of such claim or litigation within sixty days after the Indemnifying Party receives notice thereof from the Indemnified Party. Further, an Indemnifying Party shall be liable for amounts paid in settlement of any such claim or litigation only if the Indemnifying Party consents in writing to such settlement (which consent shall not be reasonably withheld). No Indemnifying Party, in the defense of any such claim or litigation, shall, except with the consent of each Indemnified Party, consent to entry of any judgment or enter any settlement which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party a release from all liability in respect to such claim or litigation.

7.4. The obligations of AspenTech and each Holder under this Section 7.4 shall survive the completion of any offering of stock in a registration statement under this Declaration and otherwise.

8. MISCELLANEOUS.

8.1. EFFECTIVENESS. This Declaration shall become effective upon the consummation of the Merger pursuant to the Reorganization Agreement.

8.2. AMENDMENT; WAIVER. This Declaration, or any provision of this Declaration, may be amended or waived from time to time only upon the mutual written agreement of AspenTech and Holders who then owning of record a majority of the Registrable Shares. No delay or omission by any party to exercise any right or power hereunder shall impair such right or power or be construed to be a waiver thereof. A waiver by any of the parties hereto of any of the covenants to be performed by the other or any breach thereof shall not be construed to be a waiver of any subsequent breach or of any other covenant contained in this Declaration.

8.3. NOTICES. Notices and other communications by a party under this Declaration shall be in writing and hand-delivered, deposited with an overnight carrier for next- or second-day delivery, or transmitted by facsimile (with receipt confirmed), addressed to the parties as follows (or to such other addresses as any party may designate from time to time in writing):

To AspenTech: Aspen Technology, Inc.
Ten Canal Park
Cambridge, Massachusetts 02141-2201
Facsimile: (617) 949-1722
Attention: Chairman and Chief Executive Officer

with a copy to: Aspen Technology, Inc.
Ten Canal Park
Cambridge, Massachusetts 02141-2201
Facsimile: (617) 949-1717
Attention: Vice President and General Counsel

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To the Stockholders: Chesapeake Decision Sciences, Inc.
200 South Street
New Providence, New Jersey 07974
Facsimile: (908) 464-4134
Attention: Thomas E. Baker

With copies to: J. Gregory Milmoe, Esq.
Skadden, Arps, Slate, Meagher & Flom LLP
919 Third Avenue
New York, New York 10022-3897
Facsimile: (212) 735-2000

John F. Kuntz, Esq.
Bourne, Noll & Kenyon
382 Springfield Avenue
Summit, New Jersey 07901
Facsimile: (908) 277-6808

and shall be deemed given when received.

8.4. ASSIGNMENT OF RIGHTS. The rights of any Holders to cause AspenTech to register Registrable Shares pursuant to this Declaration may not be assigned by the Holders to any person or entity, except that a Holder may transfer its rights hereunder in connection with a transfer to any of such record holders' respective family members and trusts wholly or principally for the benefit of family members to whom such holders transfer record ownership of any of the Registrable Shares.

8.5. CONSTRUCTION.

(a) References herein to "200,000," "500,000" and "1,000,000" Registrable Shares are subject to equitable adjustment for shares of AspenTech Common issued as a dividend or distribution on account of Registrable Shares and for any combination or subdivision of outstanding Registrable Shares into a less or greater number of securities (by reclassification, stock split or otherwise). In the event shares of AspenTech Common included in the Registrable Shares are exchanged for any other securities issued by AspenTech, such other securities shall constitute Registrable Shares in accordance with clause (b) of the definition of "Registrable Shares" in Section 1 and the provisions of this Declaration of Registration Rights shall be interpreted and construed in order to provide registration rights with respect to such other securities constituting Registrable Shares that are substantially identical to the registration rights granted hereunder with respect to the exchanged shares of AspenTech Common.

(b) Titles or captions of Sections contained in this Declaration are inserted only as a matter of convenience and for reference, and in no way define, limit, extend or describe the scope of this Declaration or the intent of any provision of this Declaration. The words "herein" and "hereof" and other words of similar import refer to this Declaration as a whole and not to any particular part of this Declaration. The word "including" as used herein shall not be construed so as to exclude any other thing not referred to or described. All references herein to Sections shall be deemed references to sections of this Declaration, except as otherwise provided.

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IN WITNESS WHEREOF, the Declaration of Registration Rights made as of April 27, 1998 by the Board of Directors of Aspen Technology, Inc. is hereby amended and restated as set forth in this Declaration, in acknowledgment of which this Declaration has been executed as of September 23, 1998 (i) on behalf of AspenTech, by Lawrence B. Evans, a duly authorized officer of AspenTech, and (ii) on behalf of the Holders, by Dr. Thomas E. Baker, the Holder of a majority of the Registrable Shares.

ASPEN TECHNOLOGY, INC.

By: /s/ LAWRENCE B. EVANS

Chief Executive Officer

HOLDERS:

By: /s/ THOMAS E. BAKER

Dr. Thomas E. Baker