



**NOTICE OF ANNUAL MEETING OF STOCKHOLDERS
To Be Held May 3, 2006**

The 2006 annual meeting of the stockholders of Axcelis Technologies, Inc., a Delaware corporation, will be held at the offices of the Company at 108 Cherry Hill Drive, Beverly, Massachusetts, at 5:00 p.m. on Wednesday, May 3, 2006 for the following purposes:

1. To elect two (2) directors to serve until the 2009 annual meeting of stockholders.
2. To ratify the appointment of our independent registered public accounting firm to audit our financial statements for the year ending December 31, 2006.
3. To transact such other business as may properly come before the meeting or any adjournment thereof.

Only stockholders of record at the close of business on March 15, 2006 will be entitled to vote at the annual meeting or at any adjournment.

It is important that your shares be represented at the meeting. Therefore, whether or not you plan to attend the meeting, please complete your proxy card and return it in the enclosed envelope, which requires no postage if mailed in the United States. If you attend the meeting and wish to vote in person, your proxy will not be used.

By order of the Board of Directors,

A handwritten signature in black ink, appearing to read "Lynnette Fallon", is written over a horizontal line.

Lynnette C. Fallon
Secretary

Dated: April 3, 2006

PROXY STATEMENT

The Board of Directors of Axcelis Technologies, Inc. (“Axcelis” or the “Company”) is soliciting your proxy for use at the 2006 annual meeting of stockholders to be held on Wednesday May 3, 2006 and at any adjournment of the meeting. This proxy statement and the accompanying proxy card are first being sent or given to stockholders of Axcelis on or about April 3, 2006.

General Information About Voting

Who can vote. You may vote your shares of Axcelis common stock at the annual meeting if you were a stockholder of record at the close of business on March 15, 2006. On that date, there were 100,988,673 shares of common stock outstanding. You are entitled to one vote for each share of common stock that you held on the record date.

How to vote your shares. You may vote your shares either by proxy or by attending the meeting and voting in person. If you choose to vote by proxy, please complete, date, sign and return the proxy card in the enclosed postage prepaid envelope. The proxies named in the proxy card will vote your shares as you have instructed. If you sign and return the proxy card without indicating how your votes should be cast, the proxies will vote your shares in favor of each of the proposals contained in this proxy statement, as recommended by our Board of Directors. Even if you plan to attend the meeting, please complete and mail your proxy card to ensure that your shares are represented at the meeting. If you attend the meeting, you can still revoke your proxy by voting in person. If your shares are held in a brokerage or bank account, you must make arrangements with your broker or bank to vote your shares in person.

Proposals to be considered at the annual meeting. The principal business expected to be transacted at the meeting, as more fully described below, will be the reelection of two directors whose current terms end in 2006 and the ratification of the selection of independent auditors of the Company.

Quorum. A quorum of stockholders is required to transact business at the meeting. A majority of the outstanding shares of common stock entitled to vote, represented at the meeting in person or by proxy, constitutes a quorum for the transaction of business.

Number of votes required. The number of votes required to approve the proposals that are scheduled to be presented at the meeting is as follows:

Proposal	Required Vote
• Election of two nominees as directors	Each nominee must receive a plurality of the votes cast.
• Ratification of the appointment of our independent registered public accounting firm (our “independent auditors”) to audit our financial statements for the year ending December 31, 2006	This requires the affirmative vote of a majority of the votes cast.

Abstentions. Abstaining from voting for a nominee in the election of directors or on the proposal to ratify the appointment of our auditors will reduce the number of votes cast as well as the number of votes in favor, so will have no impact on the results of voting.

Broker non-votes. A broker non-vote occurs when a broker cannot vote a customer’s shares registered in the broker’s name because the customer did not send the broker instructions on how to vote on the matter and the broker is barred by law or stock exchange regulations from exercising its discretionary voting authority in the particular matter. Brokers will have voting discretion for shares registered in their own name on both the election of directors and ratification of auditors.

Discretionary voting by proxies on other matters. Aside from the proposals for the election of directors and the ratification of our selection of auditors, we do not know of any other proposals that

may be presented at the 2006 annual meeting. If another matter is properly presented for consideration at the meeting, the persons named in the accompanying proxy card will exercise their discretion in voting on the matter.

How you may revoke your proxy. You may revoke the authority granted by your executed proxy card at any time before we exercise it by filing with our Corporate Secretary, Lynnette C. Fallon, a written revocation or a duly executed proxy card bearing a later date, or by voting in person at the meeting. If your shares are held in a brokerage account, you must make arrangements with your broker or bank to revoke your proxy.

Expenses of solicitation. We will bear all costs of soliciting proxies. We will upon request reimburse brokers, custodians and fiduciaries for out-of-pocket expenses incurred in forwarding proxy solicitation materials to the beneficial owners of stock held in their names. In addition to solicitations by mail, our directors, officers and employees may solicit proxies from stockholders in person or by other means of communication, including telephone, facsimile and e-mail, without additional remuneration. We may retain a proxy solicitation firm to assist in the solicitation of proxies. We will bear all reasonable fees and expenses if such a firm is retained.

Householding of Annual Meeting Materials. Some banks, brokers and other nominee record holders may be “householding” our proxy statements and annual reports. This means that only one copy of our proxy statement and annual report to stockholders may have been sent to multiple stockholders in your household. We will promptly deliver a separate copy of either document to you if you call or write us at the following address or telephone number: Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary, telephone: (978) 787-4000. If you want to receive separate copies of the proxy statement or annual report to stockholders in the future, or if you are receiving multiple copies and would like to receive only one copy per household, you should contact your bank, broker, or other nominee record holder, or you may contact us at the above address and telephone number. Our annual report is also available on our website at www.axcelis.com.

SHARE OWNERSHIP OF 5% STOCKHOLDERS

The following table shows the amount of our common stock beneficially owned as of March 1, 2006 by persons known by us to own more than 5% of our common stock.

<u>Beneficial Owner(1)</u>	<u>Shares Owned</u>	<u>Percent of Class</u>
FMR Corp. and Edward C. Johnson 3rd(2) 82 Devonshire Street, Boston, MA 02109	15,080,036	15.0%
Artisan Partners Limited Partnership, Artisan Investment Corporation, Andrew A. Zeigler, Carlene Murphy Zeigler(3) 875 East Wisconsin Avenue, Suite 800, Milwaukee, WI 53202	7,736,600	7.7%

- (1) Unless otherwise noted, the number of shares beneficially owned by each person listed includes any shares over which a person has sole or shared voting or investment power. The percentage ownership of each person listed in the table was calculated using the total number of shares outstanding on March 1, 2006.
- (2) Based on a Schedule 13G/A filed with the Securities and Exchange Commission in February 2006, which states that such shares are owned by investment companies managed by subsidiaries of FMR Corp., including Fidelity Low Priced Stock Fund (the “Fund”), which holds 10,053,006 of such shares (10% of the class). According to the Schedule 13G/A, FMR Corp. and, by virtue of his controlling interest in FMR Corp., Mr. Johnson have sole voting power over 1,016,400 such shares and the sole power to dispose of all of such shares. The investment adviser to such investment companies, Fidelity Management & Research Company (“Fidelity”), votes most of the remaining shares pursuant to guidelines of the investment companies’ trustees. Fidelity, which is a wholly-owned subsidiary of FMR, is the beneficial owner of 14,091,606 of such shares (14% of the class). Fidelity and the Fund share the same address as FMR Corp.
- (3) Based on a Schedule 13G filed by Artisan Partners Limited Partnership, Artisan Investment Corporation, Andrew A. Ziegler, and Carlene Murphy Ziegler with the Securities and Exchange Commission in January 2006, which states that they have shared voting and investment power with respect to the reported shares. The shares were acquired on behalf of discretionary investment management clients of Artisan Partners, who are entitled to receive all dividends from and proceeds from the sale of the shares.

SHARE OWNERSHIP OF DIRECTORS AND EXECUTIVE OFFICERS

The following table shows the amount of our common stock beneficially owned as of March 1, 2006 by our directors, the executive officers named in the Summary Compensation Table below, and all of our current executive officers and directors as a group.

<u>Beneficial Owner(1)</u>	<u>Shares Owned</u>	<u>Shares Subject to Options or Warrants Exercisable as of April 29, 2006(2)</u>	<u>Total Shares Beneficially Owned</u>	<u>Percent of Class</u>
<i>Non-Executive Directors</i>				
Alexander M. Cutler(3)	35,435	100,000	135,435	*
R. John Fletcher	14,557	55,000	69,557	*
Stephen R. Hardis	77,992	100,000	177,992	*
William C. Jennings	12,257	55,000	67,257	*
Michio Naruto	0	40,000	40,000	*
Patrick H. Nettles	18,757	85,000	103,757	*
H. Brian Thompson	12,757	85,000	97,257	*
<i>Named Executive Officers</i>				
Mary G. Puma(4)	75,763	1,436,663	1,512,426	1.5%
Stephen G. Bassett	10,000	51,250	61,250	*
Lynnette C. Fallon	11,033	189,000	200,033	*
Matthew P. Flynn	895	80,619	81,515	*
Kevin J. Brewer	1,500	98,832	100,332	*
<i>All current Executive Officers and Directors as a Group (16 persons)(5)</i>	281,600	2,640,992	2,922,522	2.9%

* Indicates less than 1%.

- (1) Unless otherwise noted, the number of shares beneficially owned by each person listed includes any shares over which a person has sole or shared voting or investment power. The shares shown in the table also include shares that the persons named in this table have the right to acquire on or before April 29, 2006 (60 days after March 1, 2006) by exercising a stock option or other right. Unless otherwise noted, each person has sole investment and voting power (or shares that power with his or her spouse) over the shares listed in the table. The percentage ownership of each person listed in the table was calculated using the total number of shares outstanding on March 1, 2006, plus any shares these persons could acquire upon the exercise of any options held by them on or before April 29, 2006.
- (2) Concurrently with the acceleration of vesting of certain stock options effective December 15, 2005, the executive officers agreed not to sell affected options until they would otherwise vest in accordance with their original terms. Of the shares listed as subject to options exercisable as of April 29, 2006, the following shares will on such date remain subject to these lock up agreements: Ms. Puma—162,500 shares; Mr. Bassett—18,750 shares; Ms. Fallon—45,000 shares; Mr. Flynn—20,000 shares; Mr. Brewer—18,035 shares; and all current executive officers—309,473 shares.
- (3) Mr. Cutler's ownership includes an aggregate of 1,178 shares owned by his wife as trustee for Mr. Cutler's two minor children.
- (4) Ms. Puma's ownership includes 10,000 shares owned by her husband.
- (5) Includes shares and exercisable options held by the directors and named executive officers, as well as four other executive officers who beneficially own an aggregate of 11,154 shares and 264,558 exercisable options.

PROPOSAL 1: ELECTION OF DIRECTORS

In January 2006, Alexander M. Cutler informed the Board of Directors that he would resign his seat on the Board effective at the 2006 annual meeting of stockholders. Our Board of Directors has fixed the number of directors at nine until Mr. Cutler's resignation becomes effective, after which the number of directors will be reduced to eight. The number of directors is subject to increase or decrease by action of the Board. Under our charter, our Board is divided into three classes as nearly equal in number of directors as possible. The term of one class expires, and their successors are elected for a term of three years, at each annual stockholders' meeting. At the upcoming annual meeting, two directors will be elected to hold office for a term of three years until our annual meeting in 2009 and until their successors are elected and qualified. Each of the Board's nominees, Mary G. Puma and William C. Jennings has consented to serve if elected. However, if any nominee is unable to serve, proxies will be voted for any other candidate nominated by the Board. The Board recommends a vote FOR each of the two nominees.

The following table contains biographical information about the nominees for director and current directors whose term of office will continue after the meeting.

<u>Name and Age</u>	<u>Business Experience and Other Directorships</u>	<u>Director Since</u>	<u>Present Term Expires</u>
*William C. Jennings Age: 66	Mr. Jennings is a retired partner of PricewaterhouseCoopers LLP, a global accounting and advisory firm, where he led the risk management and internal control consulting practice from 1992 until his retirement in 1999. Before that, Mr. Jennings served as a senior audit partner at Coopers & Lybrand, as a senior executive vice president at Shearson Lehman Brothers, responsible for quality assurance, internal audit and compliance, and as an executive vice president and chief financial officer of Bankers Trust. Since retiring from PricewaterhouseCoopers, Mr. Jennings provided independent consulting services to a number of companies. He is also a director of Silgan Holdings Inc. and Nyfix, Inc.	2003	2006
*Mary G. Puma Age: 48	Ms. Puma is Axcelis' Chairman (since May 2005), Chief Executive Officer (since January 2002) and President (since May 2000). Prior to becoming Chief Executive Officer, Ms. Puma served as Chief Operating Officer from May 2000, and, before that, served as a Vice President of the Company from February 1999. In 1998, she became General Manager and Vice President of the Implant Systems Division of Eaton Corporation, a global diversified industrial manufacturer. In May 1996, she joined Eaton as General Manager of the Commercial Controls Division. Prior to joining Eaton, Ms. Puma spent 15 years in various marketing and general management positions for General Electric Company. Ms. Puma is a director of Nordson Corporation.	2000	2006

<u>Name and Age</u>	<u>Business Experience and Other Directorships</u>	<u>Director Since</u>	<u>Present Term Expires</u>
Michio Naruto Age: 70	Mr. Naruto is an advisor to Fujitsu Corporation, a global provider of information technology and communications solutions. Until March 2001, he held the position of vice chairman of the company. Prior to becoming vice chairman, Mr. Naruto was executive vice president, in charge of Fujitsu's Legal and Industry Relations, External Affairs, and Export Control Groups. He has been a member of Fujitsu's board in charge of international operations since 1985. Mr. Naruto is chairman of the board, Toyota InfoTechnology Center Co., Ltd. and chairman, Celestica Japan KK.	2005	2007
Patrick H. Nettles Age: 62	Mr. Nettles has served as Executive Chairman of the Board of Directors of CIENA Corporation, a manufacturer of optical networking equipment, since May 2001. Prior to that, Mr. Nettles served as Chairman of the Board of Directors and Chief Executive Officer of CIENA from October 2000, as its President, Chief Executive Officer and Director from April 1994, and as its Director and Chief Executive Officer from February 1994. Mr. Nettles is a director of Progressive Corporation.	2001	2007
R. John Fletcher Age: 60	Mr. Fletcher is Chief Executive Officer of Fletcher Spaght, Inc., a strategy consulting organization, which he founded in 1983, and Managing Director of Fletcher Spaght Ventures, a venture fund. Prior to founding Fletcher Spaght, Inc., Mr. Fletcher was a manager at the Boston Consulting Group. Mr. Fletcher is also a director of AutoImmune, Inc., Spectranetics Corporation and Panacos, Inc.	2003	2008
Stephen R. Hardis Age: 70	Mr. Hardis was the Company's Chairman of the Board until May 2005 and currently serves as Lead Director. He was Chairman and Chief Executive Officer of Eaton Corporation until July 2000. Mr. Hardis became Eaton's Chairman in January 1996 and its Chief Executive Officer in September 1995. Prior to that, he served as Eaton's Vice Chairman from 1986 and its Executive Vice President—Finance and Administration from 1979. Mr. Hardis is a director of American Greetings Corporation, Lexmark International Group, Inc., Marsh & McLennan Companies, Inc., Nordson Corporation, Progressive Corporation, and Steris Corporation.	2000	2008

<u>Name and Age</u>	<u>Business Experience and Other Directorships</u>	<u>Director Since</u>	<u>Present Term Expires</u>
H. Brian Thompson Age: 66	Mr. Thompson is the Chairman of Comsat International, a privately held independent telecommunications company operating throughout Latin America, a position he assumed in January 2003. He has also been the Chief Executive Officer of Universal Telecommunications, Inc., a private investment and advisory firm, since 1991. Since January 2005, Mr. Thompson also serves as the Chairman and Chief Executive Officer of Mercator Partners Acquisition Corporation, a blank check company formed for the purpose of effecting a merger, capital stock exchange, asset acquisition or other similar business combination with an unidentified operating business. Mr. Thompson previously served as Chairman and Chief Executive Officer of Global Telesystems, Inc., a telecommunications company, from March 1999 through September 2000 and served as Chairman and Chief Executive Officer of LCI International, a telecommunications company, from July 1991 until its sale to Qwest Communications International, Inc., a broadband internet communications company, in June 1998. At that time, Mr. Thompson became Vice Chairman of the Board of Qwest until his resignation in December 1998. Earlier, he was Executive Vice President of MCI Communications through its growth years in the 1980s. Mr. Thompson serves on the Boards of Directors of Bell Canada International, Inc., Comsat International, United Auto Group, Sonus Networks, Inc. and Mercator Partners Acquisition Corporation.	2002	2008

* Indicates a nominee for election as director.

Board of Directors Independence and Meetings

The Board of Directors has determined that all directors, other than Ms. Puma, are independent under Nasdaq Rule 4200(a)(15). Independent directors have regularly scheduled meetings at which only independent directors are present.

Our Board of Directors held six (6) meetings during 2005. Each of our incumbent directors attended at least 90% of the meetings of the Board and of the committees on which such director served, other than Mr. Naruto, who attended 67% of the meetings of the Board held after he joined in May 2005. The average rate of attendance for all current directors was 94%. All Board members whose terms continue after the annual meeting of stockholders are expected to attend the annual meeting of stockholders, subject to special circumstances. All current Board members then in office attended the annual meeting in 2005.

Committees of the Board of Directors

Our Board has standing Audit, Compensation and Nominating and Governance Committees.

Audit Committee. The Audit Committee is responsible for assisting the Board of Directors in monitoring and oversight of (1) the integrity of the Company's financial statements and its systems of

internal accounting and financial controls and (2) the independence and performance of the Company's internal and independent auditors. The Audit Committee has adopted procedures for the handling of complaints regarding accounting, internal controls and auditing matters which are described in our Code of Ethics available on our website at www.axcelis.com. The Audit Committee operates under a written charter, a copy of which is attached hereto as Appendix A. The Audit Committee charter is also available on the Investors page of our website at www.axcelis.com. The Audit Committee met eight (8) times during 2005. During 2005, the Audit Committee consisted of Mr. Jennings (Chairman) and Messrs. Thompson and Fletcher.

In addition to the independence determination discussed above, the Board of Directors has determined that both Mr. Fletcher and Mr. Jennings are audit committee financial experts as defined in Item 401 of Regulation S-K promulgated by the Securities and Exchange Commission. The Board's conclusions regarding the qualifications of a director as an audit committee financial expert are based on his certification that he has (1) an understanding of generally accepted accounting principles and financial statements; (2) the ability to assess the general application of such principles in connection with the accounting for estimates, accruals and reserves; (3) experience preparing, auditing, analyzing or evaluating financial statements that present a breadth and level of complexity of accounting issues that are generally comparable to the breadth and complexity of issues that can reasonably be expected to be raised by the company's financial statements, or experience actively supervising one or more persons engaged in such activities; (4) an understanding of internal controls and procedures for financial reporting; and (5) an understanding of audit committee functions.

For a report on the Audit Committee's actions during 2005, see the "Audit Committee Report" below.

Compensation Committee. The Compensation Committee establishes the compensation philosophy for Axcelis and has all the authority of the Board of Directors to act or exercise corporate powers with respect to the compensation of the executive officers and the administration of Axcelis' equity compensation plans. The Compensation Committee is responsible to ensure that an annual review of executive officer performance and succession planning is presented to the Board.

The Compensation Committee operates under a written charter, a copy of which is also available on our website at www.axcelis.com. The Compensation Committee is composed of Mr. Thompson, Chairman, and Messrs. Hardis and Cutler. The Compensation Committee held seven (7) meetings in 2005.

For a report on the Compensation Committee's actions during 2005, see the "Compensation Committee Report on Executive Compensation" below.

Nominating and Governance Committee. The Nominating and Governance Committee of the Board of Directors is responsible for identifying and nominating candidates for membership on the Board of Directors, making recommendations to the Board on non-employee director compensation and establishing governance policies for the Board and management. Its members are Mr. Nettles, Chairman, and Messrs. Hardis and Cutler. The Committee operates under a written charter and governance policies, copies of which are available on our website at www.axcelis.com. The Committee held four (4) meetings in 2005.

The Nominating and Governance Committee seeks new nominees for election to the Board, when necessary, through a variety of channels, including the engagement of director search firms and less formal recommendations through business and personal contacts. Director search firms engaged by the Company are paid a retainer fee to identify and screen candidates meeting specifications established by the Committee for a particular Board nominee search. Such specifications will change from one search to another based on the Committee's determination of the needs of Board composition at the time a particular search is initiated.

The Nominating and Governance Committee will evaluate any candidate recommended for nomination as a director, whether proposed by a stockholder or identified through the Committee's own search processes, about whom it is provided appropriate information. In evaluating a candidate, the Committee must, at a minimum, determine that the candidate is capable of discharging his or her fiduciary duties to the stockholders of the Company. The Committee will determine whether the particular nomination would be consistent with Axcelis' governance policies. These policies provide in part that all new candidates for election to the Board and all Board members eligible for nomination for re-election to the Board shall be evaluated on the following criteria:

(a) such candidate or Board member's current level of, and on-going commitment to, education regarding the responsibilities of a member of a Board of Directors under standards established by the Nominating and Governance Committee;

(b) the adequacy of such candidate or Board member's time available to commit to responsibilities as a member of the Board;

(c) the existence of any financial relationship with the Company other than that arising as an employee of the Company, as a Board member and/or as a stockholder; and

(d) in the case of re-election, such member's compliance with our Director Stock Ownership Policy.

If a candidate is presented to the Nominating and Governance Committee at a time when it has established specifications for a particular Board search, the Committee will consider whether the candidate satisfies the established specifications. More generally, the Committee will consider a candidate's skills, character, leadership experience, business experience and judgment, and familiarity with relevant industry, national and international issues in light of the backgrounds, skills and characteristics of the current Board and the needs of the Company's business. Finally, the Committee must consider whether a nominee (in conjunction with the existing Board members) will assist the Company in meeting the requirements of the Sarbanes Oxley Act of 2002, the rules of the Securities and Exchange Commission, the Nasdaq listing standards, and the Internal Revenue Code regarding the independence, sophistication and skills of the members of the Board of Directors and the Audit, Compensation and Nominating and Governance Committees.

In order to recommend a candidate for consideration by the Nominating and Governance Committee, a stockholder must provide the Committee with the candidate's name, background and relationship with the proposing stockholder, a brief statement outlining the reasons the candidate would be an effective director of Axcelis and information relevant to the considerations described above. Such information should be sent to the Nominating and Governance Committee of Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary. The Committee may require further information.

Director Compensation

The Nominating and Governance Committee has responsibility under its charter to review any changes to non-employee director compensation and provide a recommendation as to the adoption of such changes to the full Board. All equity grants to non-employee directors are either made under automatic granting language in the 2000 Stock Plan or by the Compensation Committee on the recommendation of the Board of Directors.

Director Fees. Mr. Hardis, the Lead Director, receives an annual retainer, payable quarterly. Mr. Hardis' annual retainer was set at \$100,000 for the period from July 1, 2005 through June 30, 2006, at which time it will be reduced to \$50,000 for the period ending June 30, 2007. Each non-employee director (other than Mr. Hardis) receives an annual retainer of \$30,000 payable quarterly. In addition, each non-employee director (other than Mr. Hardis) assuming responsibility as Chairman of a

committee of the Board of Directors receives an annual retainer of \$7,500. Non-employee directors also receive cash fees for attendance at Board and committee meetings. Mr. Hardis will not receive meeting fees for meetings held prior to July 1, 2006. The meeting fees are: (1) \$2,000 for attendance in person at a meeting of the Board of Directors; (2) \$1,000 for attendance at a meeting of any committee of the Board of Directors; and (3) \$1,000 for participation in a telephonic meeting of the Board of Directors or committee of the Board of Directors. Fees are paid only to committee members with respect to attendance at a committee meeting. Non-employee directors also receive reimbursement of out-of-pocket expenses incurred in attending Board and committee meetings. Non-employee directors do not receive any Company-paid perquisites.

Automatic Option Grants. All non-employee directors of Axcelis receive automatic initial stock option grants under our 2000 Stock Plan. The initial option grant is for 40,000 shares and is granted upon initial election to the Board. These non-employee director options have an exercise price equal to the closing price of our common stock on the grant date and are fully exercisable on the 181st day after the date the option is granted, provided the optionee is still a director on that date. The options have a term of ten years from the date of grant.

Prior to 2005, non-employee directors also received automatic annual grants for 15,000 shares beginning in the first calendar year after such director's first election to the Board. The 2000 Stock Plan was amended to eliminate the annual option grant provision in 2005, in light of the restricted stock grants described below.

Restricted Stock Grants. In 2005, the Compensation Committee approved the issuance under the 2000 Stock Plan of 7,257 shares of restricted stock to each of the non-employee directors elected in years prior to 2005. The value of the grants was \$50,000, using the closing price on the date of grant. These restricted stock grants became fully vested on the 181st day after the date of grant for the recipients remaining a director on that date.

AUDIT COMMITTEE REPORT

The Audit Committee is responsible for assisting the Board of Directors in monitoring and oversight of (1) the integrity of the Company's financial statements and its systems of internal accounting and financial controls and (2) the independence and performance of the Company's internal and independent auditors.

The Committee schedules meetings to occur after the preparation of quarterly and annual financial statements but prior to the public release of financial results for the period. The Committee met in April, July and October of 2005, prior to the release of the financial results for the first, second and third quarters of 2005, respectively and in January 2006 prior to the release of our 2005 year-end results. If appropriate, additional meetings may also be held during the year to address a variety of recurring and non-recurring topics, such as the Company's internal control systems, the scope and results of the Company's internal audit plans, changes to the Audit Committee charter and other matters. In addition, throughout 2005, the Audit Committee provided oversight of the Company's preparations for management's assessment of its internal controls over financial reporting as required by Section 404 of the Sarbanes Oxley Act of 2002. The Committee receives regular reports from management on this topic and confirmation of the processes and timing of preparation from the independent auditors. During 2005, the Audit Committee held a total of eight (8) meetings.

At all of these meetings, Axcelis' Chief Executive Officer and Chief Financial Officer were present, as was our General Counsel and our independent auditors. The Committee's agenda is established by the Committee's chairman, with input from the Company's Chief Financial Officer. Depending on the content of the meeting, the Committee holds private sessions with the Company's independent auditors, the Company's internal auditors, and, separately, with management, at which candid discussions of financial management, accounting and internal control issues can take place. In its executive sessions with representatives of the independent auditors, the Committee seeks to engage in a meaningful dialogue to address any questions or concerns identified by the Committee and to obtain an understanding of any questions or concerns of the auditors.

At the recommendation of the Audit Committee, the Board of Directors appointed Ernst & Young LLP as our Independent Registered Public Accounting Firm to audit our financial statements for 2005. At the 2005 annual meeting of stockholders, our stockholders ratified this appointment. The Audit Committee discussed with our independent auditors and the Company's Chief Financial Officer overall audit scopes and plans, the results of external audit examinations, evaluations by the auditors of the Company's internal controls and the quality of the Company's financial reporting.

Management has reviewed with the Audit Committee the audited consolidated financial statements for the year ended December 31, 2005 prepared by management and audited by Ernst & Young LLP. In addition, the Committee received from the independent auditors (1) their annual written reports covering matters required to be discussed by the auditors with the Committee under Statement on Auditing Standards No. 61, *Communication with Audit Committees* and (2) their disclosures and the letter regarding independence from the Company and its management, which disclosures and letter are made under Independence Standards Board Standard No. 1, *Independence Discussions with Audit Committees*. Both items were discussed with the auditors and management at an Audit Committee meeting, including a discussion of any relationship that may impact the objectivity and independence of our auditors and whether the provision of any non-audit services by the auditors is compatible with maintaining their independence. The review included a discussion of the quality, not just the acceptability, of the accounting principles, the reasonableness of significant judgments, and the clarity of disclosures in the financial statements.

In reliance on these reviews and discussions, and the report of the our Independent Registered Public Accounting Firm, the Audit Committee recommended to the Board of Directors that such audited financial statements be included in the Company's 2005 Annual Report on Form 10-K for filing

with the Securities and Exchange Commission and in the Annual Report to Stockholders which accompanies this proxy statement.

The Committee and the Board have also recommended, subject to reconsideration in the absence of stockholder ratification, the selection of the Company's independent auditors for the current year, as discussed below under "Proposal 2: Ratification of the Appointment of Our Independent Registered Public Accounting Firm."

In performing all of these functions, the Audit Committee acts only in an oversight capacity. Necessarily, in its oversight role, the Committee relies on the work and assurances of the Company's management, which has the primary responsibility for financial statements and reports, and of the independent auditors, who in their report on the audited annual financial statements, express an opinion on the conformity of the Company's annual financial statements to accounting principles generally accepted in the United States.

By the Audit Committee,

William C. Jennings, Chairman
H. Brian Thompson
R. John Fletcher

EXECUTIVE COMPENSATION

Compensation Committee Report on Executive Compensation

The Compensation Committee establishes and reviews the compensation philosophy for Axcelis and has all the authority of the Board of Directors to act or exercise corporate powers with respect to the compensation of the executive officers and the administration of Axcelis' equity compensation plans. This report is submitted by the Compensation Committee and addresses the compensation policies for 2005 as they affected Ms. Puma, as Chief Executive Officer, and the other current executive officers.

Compensation Philosophy

The Company's executive compensation program is designed with the objective of attracting and retaining executives and motivating management to meet and exceed the Company's annual and long-term performance goals.

In general, the Company seeks to provide base salaries, target bonus compensation and equity compensation within the 50th percentile of such categories of compensation paid by similar companies for comparable positions, based on market benchmarking data compiled by external consulting firms. In determining the total amount and mix of the compensation package for each executive officer, the Committee members subjectively consider the unique education, training and experience of the executive officer, his or her overall value to the Company in light of numerous factors such as contributions to the Company's competitive position in the marketplace, individual performance, and the past and expected contribution by the executive officer toward the achievement of the Company's performance objectives. In reaching these decisions, the Committee accesses the advice of an independent compensation consultant with respect to the structure and competitiveness of the Company's executive compensation programs, as well as the programs' consistency with the Company's executive compensation philosophy. The Committee has the sole authority to hire and fire all outside compensation consultants providing information and advice to the Committee.

The Company strives to provide compensation opportunities that emphasize effectively rewarding management for the achievement of critical performance objectives. The Committee supports a pay-for-performance policy that determines compensation amounts based on Company and individual performance. While the establishment of base salaries turns principally on the factors noted above, incentive bonuses for senior corporate executives are based on the performance of the Company as a whole, and can be increased or decreased to reflect individual performance. In addition, the program provides stock incentive opportunities designed to align the interests of executives and other key employees with other stockholders through the ownership of Common Stock. The following is a discussion of each of the elements of the Company's executive compensation program including a description of the decisions and actions taken by the Committee with respect to compensation in the year ended December 31, 2005 for the Chief Executive Officer and all executive officers as a group.

Executive Compensation Program

The Company's executive compensation program consists of base salary, an annual cash bonus opportunity and equity grants. Executives may also participate in a financial and tax planning benefit available to executives, described below and other benefit plans available to all employees.

Base Salary. The Committee's primary objective is to set base salaries of executive officers at a level that reflects the median salary salaries for similar positions at comparable companies in the Company's industry. Although the Committee reviews each executive officer's base salary annually, the Committee does not routinely adjust base salary to reflect annual performance. Adjustments in executive officer base salary are generally made from time to time to reflect changes in the median base salary benchmarked for the officer's position or changes in the executive's role or levels of responsibility. The Committee relies principally on the incentive bonus program and option grants to drive pay-for-performance, thereby avoiding wage inflation from cumulative annual base increases.

Incentive Bonus Program. Since our separation from Eaton Corporation in 2000, the Compensation Committee has implemented a single annual bonus plan, called the Axcelis Team Incentive Plan, in which all employees participate. An executive officer's payout under the Axcelis Team Incentive Plan depends on three factors:

- (1) a Company Performance Score determined by the Compensation Committee in light of the achievement of specific financial or non-financial goals that are set by the Compensation Committee at the beginning of each year;
- (2) the officer's target bonus as set by the Compensation Committee at the beginning of the year and reviewed annually, which is expressed as a percentage of the officer's actual base earnings for the year; and
- (3) the officer's individual performance score which is determined by the Compensation Committee at the time of bonus payout to reflect the officer's individual performance during the course of the plan year.

After completion of the plan year, the Committee determines the Company Performance Score, which may range from 0% to 200%, based on goal achievement. A 100% Company Performance Score results in each executive having the opportunity to receive his or her target bonus, subject to adjustment for the individual performance score, which can range from 0% to 150%. The Company Performance Score was 20% in 2003 and 123% in 2004. For 2005, the Committee approved a 40% Company Performance Score, resulting in below target payouts under the 2005 Axcelis Team Incentive Plan.

In January 2005, the Committee approved a design for the 2005 Axcelis Team Incentive in which the Company Performance Score was based 70% on financial goals and 30% on non-financial operational goals. The financial goals were based on the Company's profit plan for 2005, and included specific targets for 2005 revenues, gross margin, pre-tax profit and cash generation. The operational goals were derived from the Company's 2005 strategic plan and included multiple detailed targets in the areas of product improvement and customer relationships. In its meetings throughout 2005, the Committee monitored the Company's performance against the Axcelis Team Incentive goals. In January 2006, the Committee determined that the Company's performance against the 2005 financial goals scored at 19% out of a target of 70%. The Committee considered factors relating to the quality of the financial results as well as the actual quantitative results. The Committee also determined that the Company's performance against the non-financial operational goals drove a 21% score out of a target of 30%. These scores, once weighted, resulted in an aggregate Company Performance Score of 40%.

For 2005, the target opportunities under the Axcelis Team Incentive Plan for each of the executive officers were fixed by the Compensation Committee at percentages of base compensation ranging from 40% to 100%, in the case of Ms. Puma. In setting these target opportunities, the Committee seeks to set a target that is consistent with the median short term cash incentive compensation targets set for similar positions at comparable companies in the Company's industry. The Committee reviews each executive officer's target incentive opportunity annually and adjustments may be made to reflect changes in the benchmarking data or changes in the executive's role or levels of responsibility.

To determine each officer's payout, the Compensation Committee must set an individual performance score, ranging from 0% to 150%. The Committee makes this assessment based on the executive's achievement of his or her personal and team goals set at the beginning of the year, taking into account the Chief Executive Officer's recommendation (for the other executive officers) and the business results in the executive's area of responsibility. The amounts paid to our Chief Executive Officer and the four other most highly paid executive officers under the 2005 Axcelis Team Incentive are set forth in the Summary Compensation table in this proxy statement.

Long Term Incentives. The Committee believes it is in the best interests of the Company and its stockholders to make equity awards as a long-term component of executive and key employee

compensation program. Equity grants to executive officers and other key employees are intended to keep employee financial interests in line with long-term stockholder value. Equity grants are consistent with the Committee's pay-for-performance objective, in that compensation is linked to stock price appreciation. In addition, equity grants constructively influence management's motivation to enhance the value of the Company's stock. Equity grants are a key retention device as a result of vesting provisions which typically extend over four years. In general, equity grants to executives are made upon hire and/or promotion and thereafter on an annual basis. These grants make take the form of stock options, restricted stock or restricted stock units.

All option grants under our 2000 Stock Plan have an exercise price equal to the closing price of the Company's common stock on the date of grant. Stock options granted to the Company's executive officers and other employees of the Company typically include a four year vesting provision, in which 25% of the shares vest on each of the first four anniversaries of the date of grant. In general, options issued by the Company expire on the 10th anniversary of the date of grant.

In 2005, all executive officers and certain other key personnel received restricted stock units, under which shares of common stock will be issued on vesting. One third of the units granted will vest in each of 2007, 2008 and 2009. The Committee determined that restricted stock units were the appropriate form of equity grants in 2005 for two primary reasons. First, the Committee believed that a significant equity grant with delayed vesting would retain key executives at a time when stock option portfolios did not represent a meaningful disincentive to leave the Company. Secondly, in light of required equity compensation expensing under Financial Accounting Standard 123(R) which took effect January 1, 2006, the Committee sought to align the expense to the Company of executive equity grants with the perceived value of such grants by the executive. The Committee determined that the expense that the Company would incur from the grant of restricted stock units was more aligned with the executives' perceptions of the value of such grants than would be the case with stock option grants, which had historically been used.

The Company maintains a single equity compensation plan, the 2000 Stock Plan (approved by stockholders in May 2002), which permits the issuance of stock options, restricted stock, restricted stock units and other equity compensation. As of December 31, 2005, 33,173,367 shares of common stock had been reserved for issuance under the 2000 Stock Plan, 855,896 of which have been issued (on exercise of options and as restricted stock) and 14,317,403 of which are subject to outstanding options and restricted stock units. Grants under the 2000 Stock Plan in 2005 were 1,564,013 shares, representing 1.56% of the Company's shares outstanding. In 2005, the Committee recommended and the Board approved an amendment to the 2000 Stock Plan to eliminate the "evergreen" feature of the plan, which permitted an annual increase in the number of shares available for issuance under the Plan. The 2000 Stock Plan will expire on May 1, 2012.

Change of Control Agreements; Other Benefits and Perquisites.

As discussed below under "Executive Agreements," executive officers benefit from Change of Control Agreements with the Company. In 2005, the Compensation Committee approved the amendment and restatement of existing Change of Control Agreements to avoid penalty taxes under The American Jobs Creation Act of 2004 and to add certain non-competition and non-solicitation covenants in favor of the Company. The benefits due to the executives were not changed except to clarify that restricted stock units were subject to the same terms as stock options in the event of a change of control. The Committee believes that these Change of Control Agreements are a part of a competitive compensation package and will assist in the retention of critical talent if a possible or actual change of control should arise.

Executives also participate in benefit plans available to all employees, including an Internal Revenue Code Section 401(k) plan, under which the Company made a matching contribution to each participant in 2005, and the Employee Stock Purchase Plan, an Internal Revenue Code Section 423 plan through which employees may elect to purchase Axcelis shares through salary deductions. Other

than a tax and financial planning reimbursement program capped at \$5,500 per year, Axcelis offers no material executive perquisites.

Chief Executive Officer Compensation Actions during 2005

Ms. Puma's minimum base compensation is set in accordance with her Employment Agreement. See "Executive Agreements" below. Ms. Puma's base compensation was set at \$500,000 during 2004 and no adjustment was made in 2005.

Ms. Puma participated in the 2005 Axcelis Team Incentive annual bonus plan described in detail above. The Compensation Committee set her individual target bonus at 100% of her base compensation in light of median total cash compensation being paid to chief executive officers of Ms. Puma's experience in companies of similar size in comparable businesses. The Compensation Committee fixed Ms. Puma's individual performance score at 110% in light of her performance during 2005. In reaching this decision, the Committee considered Ms. Puma's continuing success in focusing the organization on product development and cost-reduction initiatives, her reorganization of the executive staff following the departure of the Company's chief operating officer and her ability to attract additional key executive talent. Therefore, the payout for Ms. Puma under the 2005 Axcelis Team Incentive plan was the result of a 40% Company Performance Score, multiplied by 100% of her actual base earnings in 2005, multiplied by a 110% individual performance score, for a total of \$220,000, as set forth in the Summary Compensation Table.

Ms. Puma received a restricted stock unit grant on July 1, 2005, for shares having a then current value equal to her annual base compensation. These restricted stock units will vest $\frac{1}{3}$ on each of July 1, 2007, 2008 and 2009. It was determined by the Committee that this additional restricted stock unit grant supported both stockholder alignment and continued retention.

As with the other executives, the number of shares subject to the restricted stock unit grant to Ms. Puma was determined based on market practices for similar companies and her performance. In making this grant, the Committee considered Ms. Puma's leadership and management skills, her extensive knowledge base and contacts derived from her long tenure with the Company, the need to retain Ms. Puma's services to continue on-going business initiatives, and the disruption and the costs that would be incurred if the Company was not successful in retaining Ms. Puma.

Compensation Deductibility

Section 162(m) of the Internal Revenue Code denies a tax deduction to a public corporation for annual compensation in excess of one million dollars paid to its Chief Executive Officer and its four other highest compensated officers. Certain types of "performance based compensation" (including options granted under the 2000 Stock Plan), are exempt from the limitation on deductibility. Because of the subjectivity of the non-financial components of the Company Performance Score and the individual performance score, bonuses paid under Axcelis Team Incentive do not qualify for this exemption. As a result, to the extent that a bonus payment would cause the total annual compensation of an officer to exceed \$1,000,000, it would not be deductible. We believe that the structure of the Axcelis Team Incentive Plan provides benefits to the Company that outweigh the potential tax deductions that might be available if the Plan included only objective performance measures. In general, we will continue to award compensation that is not fully deductible under the Internal Revenue Code if such an award is consistent with our compensation policies and, in our judgment, is in the best interests of the company and its stockholders.

By the Compensation Committee,
H. Brian Thompson, Chairman
Stephen R. Hardis
Alexander M. Cutler

Compensation Tables

The following tables contain information on compensation paid for the years ended December 31, 2003, 2004 and 2005 to our Chief Executive Officer and the four other most highly paid executive officers as of the end of 2005.

Summary Compensation Table

Name and Position	Year	Annual Compensation			Long Term Compensation Awards		All Other Compensation (3)
		Salary (\$)	Bonus (\$)	Other Annual Compensation (\$)(1)	Restricted Stock Awards (\$)(2)	Securities Underlying Options	
Mary G. Puma <i>Chairman, Chief Executive Officer and President</i>	2005	\$500,000	\$220,000	\$5,500	\$500,000	0	\$ 6,300
	2004	\$486,250	\$675,000	\$5,500	0	200,000	\$ 6,150
	2003	\$450,000	\$ 90,000	\$4,005	0	250,000	\$ 67,203(4)
Lynnette C. Fallon <i>Executive Vice President HR/Legal, General Counsel</i>	2005	\$305,000	\$ 68,120	0	\$305,000	0	\$ 6,300
	2004	\$304,616	\$186,870	0	0	60,000	\$ 6,150
	2003	\$295,000	\$ 23,600	0	0	60,000	\$ 6,000
Stephen G. Bassett <i>Executive Vice President and Chief Financial Officer</i>	2005	\$275,999	\$ 61,642	0	\$276,000	0	0
	2004	\$275,999	\$169,740	0	0	50,000	0
	2003(5)	\$172,500	0	0	0	20,000	0
Matthew P. Flynn <i>Senior Vice President Global Customer Operations</i>	2005	\$257,443	\$ 56,640	0	\$412,500	0	\$ 6,300
	2004	\$229,981	\$138,044	0	0	30,000	\$ 6,150
	2003	\$210,000	\$ 20,160	0	0	30,000	\$ 6,000
Kevin J. Brewer <i>Senior Vice President Manufacturing Operations</i>	2005	\$238,786	\$ 48,057	\$ 510	\$375,000	0	\$ 6,300
	2004	\$220,978	\$144,327	\$ 375	0	30,000	\$ 6,150
	2003	\$210,000	\$ 20,160	0	0	20,000	\$ 6,000

- (1) Amounts in this column represent payments to, or on behalf of, the executive under the Executive Tax and Financial Planning Reimbursement Program.
- (2) Represents the value of restricted stock units granted to the executive officers on July 1, 2005 using the closing price of our Common Stock on the date of grant (\$6.89). One third of the total restricted stock units will vest (and shares will be issued) on each of July 1, 2007, July 1, 2008 and July 1, 2009 if the executive's employment continues until the respective vesting date. Until the shares are issued on vesting, the executive is not entitled to vote or receive any dividends paid on the shares underlying the units. At December 31, 2005, the executives' aggregate restricted stock unit holdings and the value thereof (where one unit represents one underlying share and using the closing price on December 30, 2005 of \$4.77) were: Ms. Puma—72,569 units (valued at \$346,154); Ms. Fallon—44,267 units (valued at \$211,154); Mr. Bassett—40,058 units (valued at \$191,077); Mr. Flynn—59,869 units (valued at \$285,577); and Mr. Brewer—54,427 units (valued at \$259,615).
- (3) Except as indicated, amounts in this column represent amounts paid in cash as a matching contribution to Axcelis' 401(k) plan in respect of contributions made during the year.
- (4) Represents (a) \$6,000 paid in cash as a matching contribution to Axcelis' 401(k) plan in respect of contributions made during 2003 and (b) \$61,203 in principal and accrued interest forgiven by the Company on December 31, 2003 under a promissory note due from Ms. Puma.
- (5) Mr. Bassett commenced providing services to Axcelis in June 2003.

Option Grants in Last Fiscal Year

None of the executive officers named in the Summary Compensation Table received stock options during fiscal year 2005.

Aggregated Option Exercises in Last Fiscal Year and Fiscal Year-End Option Values

The following table provides information on options exercised during 2005 by the named executive officers and the total number of exercisable and unexercisable stock options held at December 31, 2005 by those officers.

Name	Shares Acquired on Exercise (#)	Value Realized	Number of Securities Underlying Unexercised Options at Fiscal Year-End Exercisable/ Unexercisable	Value of Unexercised in-the-Money Options at Fiscal Year-End Exercisable/Unexercisable(1)
Mary G. Puma	0	—	1,436,633/162,500	\$0/\$0
Lynnette C. Fallon	0	—	189,000/45,000	\$0/\$0
Stephen G. Bassett	0	—	51,250/18,750	\$0/\$0
Matthew P. Flynn	0	—	80,619/25,001	\$0/\$0
Kevin J. Brewer	0	—	98,832/21,788	\$0/\$0

(1) Based on the difference between the option's exercise price and the closing price of \$4.77 of the underlying common stock on December 30, 2005, as reported by Nasdaq.

Executive Agreements

Agreements with Ms. Puma. We entered into an Employment Agreement with Ms. Puma effective in July 2000. Her agreement provided for an initial three-year term of employment at a minimum annual base salary of \$380,000 and an annual target incentive compensation opportunity of 45% of base salary. Actual incentive compensation for any year may be greater or less if actual performance is greater or less than the target. Ms. Puma's base salary and incentive opportunities were increased by our Board of Directors in the past, and may be subject to future adjustment by the Board, but not to less than the minimum levels in her Employment Agreement. See "Compensation Committee Report on Executive Compensation." The term of Ms. Puma's agreement automatically renews on a year-to-year basis unless one party notifies the other that the agreement will not be extended. Such termination notice must be sent between January 14th and March 14th of each year. Since no termination notice was sent prior to March 14, 2006, the agreement will continue until July 14, 2007, subject to further renewal. The agreement also provides that Ms. Puma will participate in the 2000 Stock Plan, the 401(k) savings plan and the welfare benefit plans that we sponsor.

In the event Ms. Puma's employment is terminated prior to the end of the term for reasons other than cause, death, disability or voluntary resignation, she is entitled to receive all compensation accrued to date, acceleration of vesting of options and other equity rights and a cash separation payment. The cash separation payment will equal 24 months of base compensation and 2 times an amount equal to her annual bonus compensation. For this purpose, Ms. Puma's annual bonus compensation will be her current base multiplied by the greater of (a) the percentage of her base that she actually received as a bonus for the prior fiscal year or (b) 25%. If Ms. Puma were entitled to such separation pay as of the date of this proxy statement, she would be entitled to a cash payment of \$1,440,000 under this agreement. In her agreement, Ms. Puma has agreed not to compete with us for a period of 12 months after termination of her active employment and not to reveal confidential information for a specified period of time.

In connection with our separation from Eaton Corporation in 2000, Eaton assigned to us a note payable by Ms. Puma in the original principal amount of \$175,000, which bears interest at the rate of 9% per annum. As contemplated by the original terms of the note, principal in the amount of \$58,334 and accrued interest on the note was forgiven on each of December 31, 2001, 2002 and 2003, as shown in the Summary Compensation Table above.

Change of Control Agreements. The Company has entered into a Change of Control Agreement with each of our executive officers, including Ms. Puma, to provide that severance compensation will be paid in a lump sum within 30 days of a covered termination following a change in control, as defined in the agreement. These Change of Control Agreements provide that executive officers are entitled to severance compensation in the event there is both (1) a change in control and (2) a termination of employment within three years of that change in control for reasons other than voluntary resignation, cause, death or disability. Under the Change of Control Agreement, a resignation by an officer for reasons of a demotion or reduction in compensation, benefits or position is a termination by us and is not a voluntary resignation.

If severance compensation is payable, it would consist of a cash payment equal to the sum of (a) the Company's accrued obligations for base pay and incentive compensation and (b) the amount determined by multiplying the executive's then salary and average bonus by three. For this purpose, an executive's average bonus is his or her current bonus opportunity multiplied by the average of the individual performance scores given to the executive in the last three years, but without taking into account company performance scores. In the event such severance is payable, all unvested restricted stock units and options held by the executive will become vested until termination or expiration in accordance with their terms. We will also reimburse the executive for the effects, including federal, state and local income tax consequences, of any excise tax due on severance compensation.

In these agreements, the executives have agreed not to be engaged by, or own, any business competing with any of the businesses conducted by the Company for a period of 12 months following any termination of employment (whether or not following a change of control). The executives also agreed not to solicit employees of the Company to leave employment with the Company or solicit or induce customers of the Company to cease doing business with the Company, during such period.

If Ms. Puma were entitled to separation pay under her Change of Control Agreement as of the date of this proxy statement, she would be entitled to a cash payment of \$3,115,000 plus reimbursement of any excise taxes payable on her cash compensation and other benefits received as a result of the change of control. In the event Ms. Puma receives payment under her Change of Control Agreement, she will not receive amounts and benefits due under her Employment Agreement unless such amounts are in excess of the amounts paid under the Change of Control Agreement.

Code of Ethics

Axcelis has set forth its policy on ethical behavior in a document called "Ethical Business Conduct at Axcelis." This policy applies to the members of our Board of Directors and all employees, including (but not limited to) our principal executive officer, principal financial officer, principal accounting officer or controller and persons performing similar functions. This policy comprises written standards that are reasonably designed to deter wrongdoing and to promote the behavior described in Item 406 of Regulation S-K promulgated by the Securities and Exchange Commission. The text of this code of ethics is posted on the Investors page of our website at www.axcelis.com, where we may also disclose any amendments to and waivers of the code.

Equity Plan Reserves Disclosure

The Company maintains two equity compensation plans, the 2000 Stock Plan and the Employee Stock Purchase Plan. These plans are summarized in the Compensation Committee Report on Executive Compensation appearing above in this proxy statement. The number of shares issuable upon exercise of outstanding options granted to employees and non-employee directors, as well as the

number of shares remaining available for future issuance, under the Company's equity compensation plans as of December 31, 2005 are summarized in the following table:

<u>Plan category</u>	<u>(A) Number of shares to be issued upon exercise of outstanding options</u>	<u>(B) Weighted-average exercise price of outstanding options</u>	<u>(C) Number of shares remaining available for future issuance under equity compensation plans (excluding shares reflected in column (A))(1)</u>
Equity compensation plans approved by stockholders	13,463,740	\$ 11.81	22,443,900
Equity compensation plans not approved by stockholders	<u>0</u>	0	<u>0</u>
Total	<u>13,463,740</u>		<u>22,443,900</u>

(1) Represents the total shares available for issuance under our 2000 Stock Plan and our Employee Stock Purchase Plan, as of December 31, 2005, as follows:

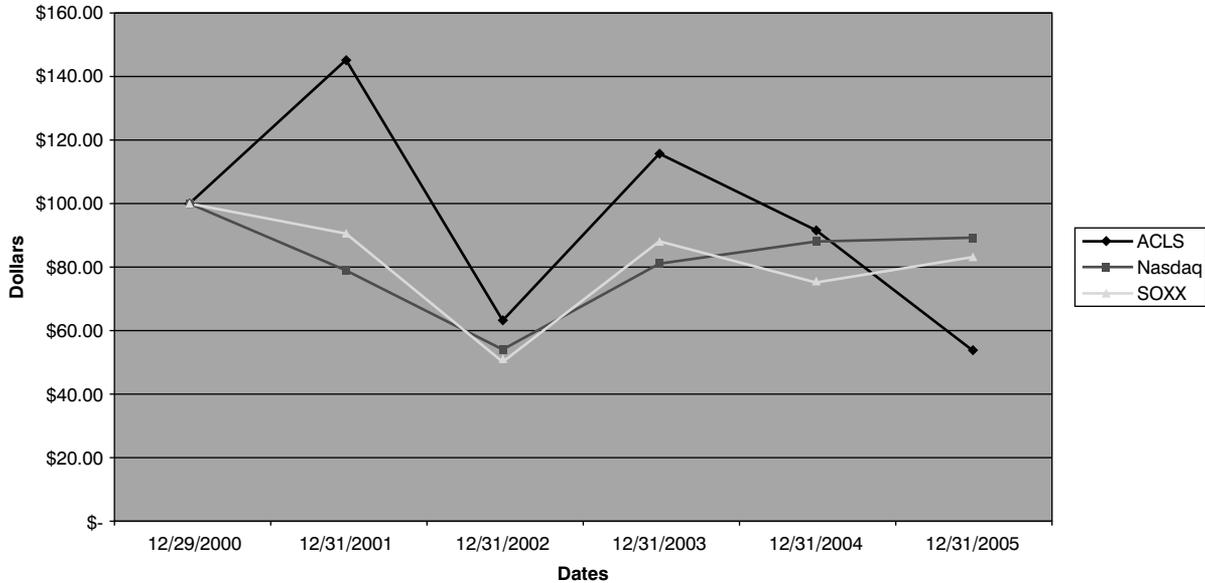
(A) 18,000,068 shares were available for future issuance under the 2000 Stock Plan. Such amount represents the total number of shares reserved for issuance under the 2000 Stock Plan, less 161,473 outstanding shares issued under the plan as restricted stock, 853,663 shares issuable upon vesting of outstanding Restricted Stock Units, 694,423 shares issued upon option exercises, and the outstanding options shown in column (A), all as of December 31, 2005. This plan is generally used for grants to employees and directors and was approved by our stockholders at our 2002 annual meeting.

(B) 4,443,832 shares were available under the Company's Employee Stock Purchase Plan, which represents the total number of shares reserved for issuance under the plan less 3,005,049 shares issued through December 31, 2005. As of December 31, 2005, the reserve had been increased to 7,448,881. The Employee Stock Purchase Plan was approved by Eaton Corporation, as our sole stockholder prior to our initial public offering, in compliance with Internal Revenue Code Section 423. The number of shares available for issuance under the Employee Stock Purchase Plan increases by the number of shares equal to 1% of the outstanding common stock on each December 31st, up to a maximum of 7,500,000 shares.

Stock Performance Graph

This graph compares the five-year cumulative total stockholder returns for our common stock to that of the Philadelphia Semiconductor Index (known as “SOXX”) and the Nasdaq Composite Index. The cumulative returns are based on a \$100 investment on December 29, 2000, with all dividends, if any, being reinvested. The stock performance shown on the graph below is not necessarily indicative of future price performance.

Performance Graph



<u>Company/Index Name</u>	<u>December 29, 2000</u>	<u>December 31, 2001</u>	<u>December 31, 2002</u>	<u>December 31, 2003</u>	<u>December 31, 2004</u>	<u>December 30, 2005</u>
Axcelis Technologies, Inc.	\$100.00	\$145.24	\$63.20	\$115.72	\$91.61	\$53.75
NASDAQ Composite Index . .	\$100.00	\$ 78.95	\$54.06	\$ 81.09	\$88.06	\$89.27
SOXX Index	\$100.00	\$ 90.56	\$50.16	\$ 88.12	\$75.15	\$83.16

Compensation Committee Interlocks and Insider Participation

During 2005, the Compensation Committee of the Board of Directors consisted of Gary L. Tooker (until his resignation in May 2005), Mr. Hardis, Mr. Cutler and Mr. Thompson, as Chairman. None of these directors was an officer or employee of Axcelis or had a relationship during 2005 requiring disclosure under Item 404 of Regulation S-K.

Certain Relationships and Related Transactions

Mr. Jennings temporarily served as chief executive officer of U.S. Interactive, Inc. from September 2000 until November 2000. U.S. Interactive, Inc. filed for bankruptcy protection in January 2001.

The governance rules of the Nasdaq Stock Market, Inc. require the Company to conduct an appropriate review of all related party transactions which are disclosable under Item 404 of Regulation S-K. In its charter, the Nominating and Governance Committee is given responsibility to review and approve any such related party transactions, including (a) business arrangements between the Company and directors or their affiliates or between the Company and employees, other than compensation for service as a director or as an employee of the Company, and (b) any other relationships between a director or employee and the Company or a third party (including membership on the boards of directors of a third party) which create the appearance or reality of a current or potential conflict of interest.

SECTION 16(a) BENEFICIAL OWNERSHIP REPORTING COMPLIANCE

Section 16(a) of the Exchange Act requires our directors, executive officers and persons owning more than 10% of our registered equity securities, to file with the SEC reports of their initial ownership and of changes in their ownership of our common stock and to provide us with copies of all Section 16(a) reports they file.

To our knowledge, based solely on our review of copies of reports furnished to us and written representations that no other reports were required during the fiscal year ended December 31, 2005, during the 2005 fiscal year, our directors, officers, and 10% stockholders complied with all Section 16(a) filing requirements.

PROPOSAL 2: RATIFICATION OF THE APPOINTMENT OF OUR INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Upon the recommendation of its Audit Committee, the Board of Directors has appointed the independent registered public accounting firm of Ernst & Young LLP (referred to herein as our “independent auditor”) as independent auditors to conduct the annual audit of our financial statements for 2006 and is seeking stockholder ratification of the appointment. Ernst & Young LLP is an internationally recognized independent registered public accounting firm that audited the Company’s financial statements in 2005 and which the Audit Committee believes is well qualified to continue.

Representatives of Ernst & Young are expected to attend the annual meeting and be available to respond to appropriate questions. They will also have the opportunity to make a statement if they desire.

The aggregate fees billed for each of the last two fiscal years for professional services rendered by Ernst & Young LLP were as follows:

	<u>2004</u>	<u>2005</u>
Audit Fees	\$2,587,600	\$1,848,700
Audit Related Fees	\$ 60,000	\$ 12,500
Tax Fees		
Tax compliance and preparation	\$ 208,388	\$ 212,751
International tax planning	\$ 82,350	\$ 135,000
General tax planning and other tax	\$ 74,050	\$ 36,435
Total Tax Fees	<u>\$ 354,660</u>	<u>\$ 384,186</u>
All Other Fees		
Expatriate employee tax services	\$ 10,826	0
Total All Other Fees	<u>\$ 10,826</u>	<u>0</u>
Total Fees	<u>\$3,023,214</u>	<u>\$2,245,386</u>

Audit fees include a U.S. GAAP audit of Sumitomo Eaton Nova Corporation and statutory audits for subsidiaries and branches operating in countries outside of the United States. Audit related fees include audits for the Company's 401(k) plan required under ERISA and, in 2004, assistance in preparation for Sarbanes Oxley Act Section 404 compliance. International tax planning relates to the setting of fair compensation for services provided to us by our foreign subsidiaries to ensure appropriate revenue levels are reported for taxation in those foreign countries. Expatriate employee tax services involve advice relating to, and administration of, tax equalization agreements between the Company and U.S. employees temporarily located in non-U.S. tax jurisdictions. As part of an on-going effort to reduce the non-audit services purchased from Ernst & Young LLP, the Company terminated its purchase of expatriate employee tax services in 2003, but a portion of the billing fell into 2004.

Our Audit Committee has adopted a policy and procedures requiring its pre-approval of all non-audit (including tax) services performed by the independent auditor in order to assure that these services do not impair the auditor's independence. The policy approves the performance of specific services subject to cost limits for each service. Such general approvals are to be reviewed and, if necessary, modified at least annually. The policy also prohibits the independent auditor's performance of certain types of services as inconsistent with independence. Management must obtain the specific prior approval of the Audit Committee for each engagement of the independent auditor to perform other audit-related or other non-audit services.

Any approval required under the policy must be given by the Audit Committee or by any member or members to whom the Committee has delegated that authority. The Audit Committee does not delegate its responsibility to approve services performed by the independent auditor to any member of management.

The standard applied by the Audit Committee in determining whether to grant approval of any type of non-audit service, or of any specific engagement to perform a non-audit service, is whether the services to be performed, the compensation to be paid therefor and other related factors are consistent with the independent auditor's independence under guidelines of the Securities and Exchange Commission, the Public Company Accounting Oversight Board and applicable professional standards. Relevant considerations include whether the work product is likely to be subject to, or implicated in, audit procedures during the audit of our financial statements, whether the independent auditor would be functioning in the role of management or in an advocacy role, whether the independent auditor's performance of the service would enhance our ability to manage or control risk or improve audit quality, whether such performance would increase efficiency because of the independent auditor's

familiarity with our business, personnel, culture, systems, risk profile and other factors, and whether the amount of fees involved, or the proportion of the total fees payable to the independent auditor in the period that is for non-audit services, would tend to reduce the independent auditor's ability to exercise independent judgment in performing the audit.

All of the non-audit services rendered by Ernst & Young LLP in respect of the 2004 and 2005 fiscal years were pre-approved by the Audit Committee in accordance with this policy.

After reporting on these fees and services, Ernst & Young LLP informed the Company that they are not aware of any relationship with the Company that, in their professional judgement, may reasonably be thought to bear on the independence of Ernst & Young LLP.

Ratification of the appointment of Ernst & Young LLP by the stockholders is not required by law or by our bylaws. The Board of Directors is nevertheless submitting it to the stockholders to ascertain their views. If this proposal is not approved at the annual meeting by the affirmative vote of holders of a majority of the shares present or represented at the meeting, the Audit Committee intends to reconsider its recommendation of Ernst & Young LLP as independent auditors. The Company may retain the firm for 2006 notwithstanding a negative stockholder vote.

The Board of Directors recommends a vote for ratification of the appointment of Ernst & Young LLP.

DEADLINES FOR STOCKHOLDER PROPOSALS

Assuming the 2007 annual meeting is not more than 30 days before or 30 days after May 3, 2007, if you wish to bring business before or propose director nominations at the 2007 annual meeting, you must give written notice to Axcelis by February 2, 2007 (the date 90 days before the anniversary of the 2006 annual meeting).

If you intend to bring proposed business to the 2007 annual meeting, and you would like us to consider the inclusion of your proposal in our proxy statement for the meeting, you must provide written notice to Axcelis of such proposal prior to December 4, 2006 (120 days before the anniversary date of the mailing of this proxy statement), assuming the 2007 annual meeting is not more than 30 days before or 30 days after May 3, 2007.

Notices of stockholder proposals and nominations shall be given in writing to Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915, Attn: Corporate Secretary.

COMMUNICATIONS TO THE BOARD

Security holders may communicate with the Axcelis Board of Directors by mailing a communication to the entire Board or to one or more individual directors, in care of the Corporate Secretary, Axcelis Technologies, Inc., 108 Cherry Hill Drive, Beverly, Massachusetts 01915. All communications from security holders to Board members (other than communications soliciting the purchase of products and services) will be promptly relayed to the Board members to whom the communication is addressed.

AXCELIS TECHNOLOGIES, INC.

Audit Committee Charter, as amended

As Adopted by the Board of Directors on April 29, 2004

The Audit Committee shall be responsible to assist the Board of Directors in monitoring and oversight of (1) the integrity of the Company's financial statements and its systems of internal accounting and financial controls and (2) the independence and performance of the Company's internal and independent auditors.

Composition of the Audit Committee

The Audit Committee shall be comprised of at least three directors appointed by the Board, each of whom:

(1) must (a) be independent as defined under Rule 4200 of the Nasdaq Marketplace Rules (the "Nasdaq Rules") (subject to the limited exception in Nasdaq Rule 4350(d)(2)(B)); (b) meet the criteria for independence set forth in Section 301 of the Sarbanes-Oxley Act of 2002 and (c) not own or control 20% or more of the Company's voting securities, or such lower measurement as may be established by the Securities and Exchange Commission (the "SEC") in rulemaking under Section 301 of the Sarbanes-Oxley Act; and

(2) must be able to read and understand fundamental financial statements, including the Company's balance sheet, income statement, and cash flow statements.

Additionally, at least one member of the Audit Committee must be a "financial expert" as defined by the SEC as required by Section 407(b) of the Sarbanes-Oxley Act of 2002.

Authority to Engage Advisors

The Audit Committee shall have the authority to retain special legal, accounting or other consultants to advise the Committee as the Committee determines necessary to carry out its duties as required by the Section 301(5) of the Sarbanes Oxley Act and the Nasdaq Rules. The Audit Committee shall be provided with adequate funding for auditing services and other consultants as contemplated by Section 301(6) of the Sarbanes Oxley Act of 2002. The Audit Committee may request any officer or employee of the Company or the Company's outside counsel or independent auditor to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

Audit Committee Duties

The Audit Committee shall:

Audit Committee Charter

1. Review and reassess the adequacy of this Charter annually and recommend any proposed changes to the Board for approval.

Review of Financial Statements and Accounting Policies

2. Discuss with management and the independent auditor the Company's quarterly earnings press releases, including the quarterly financial information and business outlook included therein. Prior to the filing of each Form 10-Q, review with management and the independent

auditor such Form 10-Q, including the quarterly financial statements therein. This review may be conducted either through the entire Committee or through its Chairman on the Committee's behalf.

3. Review and discuss reports from management and the independent auditors on (a) all critical accounting policies and practices used by the Company, and (b) alternative accounting treatments within GAAP related to material items that have been discussed with management including the ramifications of the use of the alternative treatments and the treatment preferred by the independent auditor. Discuss with the independent auditor any accounting issues which were referred to the auditor's national office during the period. In regard to quarterly reviews, this discussion may be held either through the entire Committee or through its Chairman on the Committee's behalf.
4. Review the Form 10-K, including the Company's annual audited financial statements with management and the independent auditor before publication, including major issues regarding accounting and auditing principles and practices as well as the adequacy of internal controls that could significantly affect the financial statements, and the schedule of audit adjustments if any. When satisfied, recommend to the Board that the financial statements be included in the annual report to shareholders and annual report on Form 10-K.
5. Review with management any off-balance sheet related entities on the Company's financial statements.
6. Review analyses prepared by management and the independent auditor of significant financial reporting issues and judgments made in connection with the preparation of the Company's financial statements.
7. Review with the independent auditor any problems or difficulties the auditor may have encountered and any management letter provided by the auditor and the Company's response to that letter.
8. Review with the Company's General Counsel legal matters that may have a material impact on the Company's financial statements.
9. Meet periodically with management to review the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.
10. Review at least annually any transactions between the Company and any shareholder, director, officer or employee of the Company, other than ordinary course compensation arrangements.

Appointment and Review of External Auditing Function.

11. Recommend to the Board the appointment of the independent auditor, which will be accountable to the Audit Committee and the Board, as representatives of the stockholders of the Company. The Audit Committee shall have the sole authority for the appointment, compensation, definition of the scope of, and oversight of, the work of any registered public accounting firm employed by the Company (including resolution of disagreements between management and the auditor regarding financial reporting) for the purpose of preparing or issuing an audit report or related work, and each such registered public accounting firm shall report directly to the Audit Committee.
12. Pre-approve the fees to be paid to the independent auditor for audit services.
13. Evaluate and pre-approve the retention of the independent auditor for non-audit services and the fees for such services, other than those services exempted by virtue of the de minimus exception contained in Section 202(i)(3) of the Sarbanes Oxley Act of 2002. Non-audit services

shall mean all services provided by the independent auditor to the Company other than auditing of the Company's financial statements and statutory audits of consolidated subsidiaries required by law and comfort opinions in connection with securities underwriting) and otherwise as defined by the SEC in rulemaking under the Sarbanes-Oxley Act. In evaluating whether to approve non-auditing services, the Committee shall take into account whether such non-auditing services (1) do not create an apparent conflict of interest for the auditing firm, (2) are synergistic with the audit work and (3) do not involve material fees payable to the auditing firm.

14. Obtain annually a formal written statement from the independent auditor delineating all relationships between the auditor and the Company, consistent with Independence Standards Board Standard No. 1, and discuss such statement with the auditor and, if so determined by the Audit Committee, recommend that the Board take appropriate action to satisfy itself of the independence of the auditor.
15. Annually review with the independent auditor and management the experience and qualification of the senior members of the independent auditor team and the quality control procedures of the auditing firm.
16. At least every five years, evaluate together with the Board the performance of the independent auditor and determine whether to recommend that the Board replace the independent auditor.
17. Approve any employment by the Company of an individual who had, at any time during the prior three year period, provided services to the Company while employed by the Company's independent auditor. The Company may not employ any person as the Company's chief executive officer, controller, chief financial officer, chief accounting officer or any person serving in an equivalent position for the Company, who, during the one- year period preceding the date of the initiation of the current audit (1) was employed by the Company's current independent auditor and (2) participated in any capacity in the audit of the Company.

Internal Audit Function.

18. Review and approve the internal controls framework implemented by management for the Company.
19. Annually review the scope and resources to implement management's internal auditing plans, including the engagement of any external services and appointment and any replacement of the Company's director of internal auditing.
20. Meet with the director of internal auditing or provider of out-sourced internal audit services and independent auditor prior to the Company's annual audit to review the scope, planning and staffing of the audit.
21. Review the reports of the director of internal auditing or provider of out-sourced internal audit services, and observations of the independent auditor regarding internal control issues. Review and discuss with management the Company's responses to such reports and observations.

Committee Meetings; Reporting and Oversight Functions.

22. Meet at least quarterly with the Company's chief financial officer, director of internal auditing and out-sourced internal audit function representatives and independent auditor in separate executive sessions. Meet with the general counsel in a separate executive session as needed.

23. Prepare the report required by the rules of the SEC to be included in the Company's annual proxy statement.
24. Establish procedures for:
 - (i) the receipt, retention, and treatment of complaints received by the Company regarding accounting, internal accounting controls, or auditing matters; and
 - (ii) the confidential, anonymous submission by employees of the Company regarding questionable accounting or auditing matters.
25. The Audit Committee shall make regular reports to the Board concerning the Committee's actions, conclusions and recommendations.

While the Audit Committee shall have the responsibilities and powers set forth in this Charter, it shall not be the duty of the Committee to plan or conduct audits or to determine that the Company's financial statements are complete and accurate and in accordance with generally accepted accounting principles. These instead shall be the responsibility of management and the independent auditor. Except in the case where matters are brought to the attention of the Audit Committee, it shall not be the duty of the Audit Committee to conduct investigations, or to assure compliance with laws and regulations or the Company's code of conduct.