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

FORM 10-Q

(Mark One)

☒ **QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the quarterly period ended June 30, 2005

Or

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from to

Commission file number 000-30941

AXCELIS TECHNOLOGIES, INC.
(Exact name of registrant as specified in its charter)

Delaware	**34-1818596**
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

108 Cherry Hill Drive
Beverly, Massachusetts 01915
(Address of principal executive offices, including zip code)

(978) 787-4000
(Registrant's telephone number, including area code)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15 (d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No o.

Indicate by check mark if whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes ☒ No o.

As of August 4, 2005 there were 100,535,916 shares of the registrant's common stock outstanding.

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PART 1. FINANCIAL INFORMATION

Item 1. Financial Statements

Axcelis Technologies, Inc.
Consolidated Statements of Income
(In thousands, except per share amounts)
(Unaudited)

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Revenue				
Systems	$ 48,947	$ 106,834	$ 108,640	$ 198,590
Services	39,003	41,178	77,444	80,270
Royalties, primarily Sumitomo Eaton Nova Corporation	4,228	3,336	6,130	6,713
	92,178	151,348	192,214	285,573
Cost of revenue	53,238	82,948	111,477	166,997
Gross profit	38,940	68,400	80,737	118,576
Operating expenses				
Research & development	17,543	15,927	33,410	31,364
Selling	12,004	12,836	23,874	24,435
General & administrative	11,819	11,607	23,002	22,702
Amortization of intangible assets	612	612	1,224	1,224
Restructuring charges	2,083	—	3,882	—
	44,061	40,982	85,392	79,725
Income (loss) from operations	(5,121)	27,418	(4,655)	38,851
Other income (expense)				
Equity income of Sumitomo Eaton Nova Corporation	7,626	7,578	9,965	13,147
Interest income	1,284	338	2,294	634
Interest expense	(1,656)	(1,702)	(3,310)	(3,374)
Other—net	(423)	(55)	(437)	(646)
	6,831	6,159	8,512	9,761
Income before income taxes	1,710	33,577	3,857	48,612
Income taxes (credit)	961	(894)	1,210	560
Net income	$ 749	$ 34,471	$ 2,647	$ 48,052
Net income per share				
Basic	$ 0.01	$ 0.35	$ 0.03	$ 0.48
Diluted	0.01	0.33	0.03	0.47
Shares used in computing basic and diluted income per share				
Basic	100,199	99,286	100,169	99,247
Diluted	100,604	107,763	100,737	107,724

See accompanying Notes to Consolidated Financial Statements

Axcelis Technologies, Inc.
Consolidated Balance Sheets
(In thousands)
(Unaudited)

	June 30, 2005	December 31, 2004
ASSETS		
Current assets		
Cash and cash equivalents	$ 90,011	$ 108,295
Short-term investments	88,884	78,703
Restricted cash	7,424	3,498
Accounts receivable, net	75,191	83,767
Inventories	109,235	116,330
Other current assets	34,527	14,986
Total current assets	405,272	405,579
Property, plant & equipment, net	73,016	75,275
Investment in Sumitomo Eaton Nova Corporation	110,387	109,095
Goodwill	46,773	46,773
Intangible assets	16,446	17,671
Restricted cash, long-term portion	2,532	2,841
Other assets	19,696	31,628
	$ 674,122	$ 688,862
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities		
Accounts payable	$ 23,618	$ 24,278
Accrued compensation	18,345	27,030
Warranty	8,957	9,218
Income taxes	2,628	4,530
Deferred revenue	33,311	34,050
Other current liabilities	7,685	8,289
Total current liabilities	94,544	107,395
Long-term debt	125,000	125,000
Long-term deferred revenue	12,426	7,697
Other long-term liabilities	4,810	5,297
Stockholders' equity		
Preferred stock	—	—
Common stock	100	100
Additional paid-in capital	458,962	457,335
Deferred compensation	(435)	(566)
Treasury stock	(1,218)	(1,218)
Accumulated deficit	(24,685)	(27,332)
Accumulated other comprehensive income-foreign currency translation adjustments	4,618	15,154
	437,342	443,473
	$ 674,122	$ 688,862

See accompanying Notes to Consolidated Financial Statements

Axcelis Technologies, Inc.
Consolidated Statements of Cash Flows
(In thousands)
(Unaudited)

	Six months ended June 30, 2005	Six months ended June 30, 2004
Operating activities		
Net income	$ 2,647	$ 48,052
Adjustments required to reconcile net income to net cash provided by (used for) operating activities		
Depreciation and amortization	10,891	10,006
Amortization of intangible assets	1,224	1,224

Stock compensation expense	44	133
Impairment of fixed assets	616	—
Undistributed income of Sumitomo Eaton Nova Corporation	(9,965)	(13,147)
Changes in operating assets and liabilities		
Accounts receivable	7,572	(33,151)
Inventories	5,380	1,219
Other current assets	(20,173)	(2,693)
Accounts payable and other current liabilities	(10,046)	9,641
Deferred revenue	4,056	21,508
Income taxes	(1,850)	(1,415)
Expenditures for demo and evaluation tools	(5,850)	(11,725)
Other assets and liabilities	12,188	11,382
Net cash provided by (used for) operating activities	(3,266)	41,034
Investing activities		
Purchases of short-term investments	(60,122)	(54,820)
Sales and maturities of short-term investments	49,765	28,900
Proceeds from sale of building	—	5,958
Expenditures for property, plant and equipment	(4,119)	(1,995)
Decrease (increase) in restricted cash	(3,617)	430
Net cash used for investing activities	(18,093)	(21,527)
Financing activities		
Proceeds from the exercise of stock options	994	1,310
Proceeds from employee stock purchase plan	1,309	2,436
Net cash provided by financing activities	2,303	3,746
Effect of exchange rate changes on cash	772	293
Net increase (decrease) in cash and cash equivalents	(18,284)	23,546
Cash and cash equivalents at beginning of period	108,295	65,749
Cash and cash equivalents at end of period	$ 90,011	$ 89,295

See accompanying Notes to Consolidated Financial Statements

Axcelis Technologies, Inc.
Notes To Consolidated Financial Statements (Unaudited)
(In thousands, except per share amounts)

Note 1. Nature of Business and Basis of Presentation

Axcelis Technologies, Inc. (“Axcelis” or the “Company”), is a worldwide producer of ion implantation, dry strip, thermal processing and curing equipment used in the fabrication of semiconductors in the United States, Europe and Asia. In addition, the Company provides extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services. The Company owns 50% of the equity of a joint venture with Sumitomo Heavy Industries, Ltd. in Japan. This joint venture, which is known as Sumitomo Eaton Nova Corporation, or “SEN”, licenses technology from the Company relating to the manufacture of ion implantation products and has exclusive rights to manufacture and sell these products in the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The accompanying unaudited consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Article 10 of Regulation S-X. Accordingly, they do not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements. In the opinion of management all adjustments, which are of a normal recurring nature, considered necessary for a fair presentation have been included. Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for other interim periods or for the year as a whole.

Certain prior year amounts have been reclassified to conform with the current year presentation.

The balance sheet at December 31, 2004 has been derived from the audited financial statements at that date but does not include all of the information and footnotes required by generally accepted accounting principles for complete financial statements.

For further information regarding Axcelis, refer to the consolidated financial statements and footnotes thereto included in Axcelis’ Annual Report on Form 10-K for the year ended December 31, 2004. For further information regarding SEN, refer to the financial statements and footnotes thereto included in Amendment No. 1 to Axcelis’ Annual Report on Form 10-K/A for the year ended December 31, 2004.

Note 2. Short-term Investments and Cash and Cash Equivalents

Axcelis invests excess cash primarily in money market funds, commercial paper, corporate notes, direct and indirect U.S. government obligations, bank certificates of deposit, time deposits and auction rate securities. Investments purchased with an original maturity of ninety days or less and considered highly liquid are classified as cash equivalents. Investments maturing in one year or less at the time of presentment are classified as short-term investments if the maturity exceeded 90 days at the time of acquisition.

Axcelis’s practice is to minimize investment risk by diversifying according to issuer, type and maturity. Axcelis generally intends to hold its investments until final maturity. In the case of auction rate securities, however, which have long-term underlying maturities, Axcelis’s intent is not to hold them until final maturity. Instead, Axcelis’s practice is to take advantage of the rate reset feature for liquidity and enhanced yield relative to alternative short-term investments. Rates on auction rate securities reset at auction every 7, 28, or 35 days.

Beginning in the first quarter of 2005 Axcelis began classifying its investments in auction rates securities as short-term investments and began accounting for all of its investments as available-for-sale. Pursuant to SFAS No. 115, “Accounting for Certain Investments in Debt and Equity Securities,” investments are carried on the balance sheet at fair market value. Unrealized gains and losses are excluded from earnings and included as a separate component of stockholders’ equity, until realized. Realized gains and losses are included in earnings.

The following table summarizes the effect of the reclassification of auction rate securities from cash equivalents to short-term investments and the accounting change from held-to-maturity to available-for-sale:

	Cash & cash equivalents		Short-term investments	
	As reported	Reclassified	As reported	Reclassified
March 31, 2005	$ 91,701	$ 91,701	$ 86,924	$ 86,885
December 31, 2004	168,495	108,295	18,517	78,703
September 30, 2004	138,004	74,204	23,549	87,339
June 30, 2004	139,095	89,295	18,616	68,401
March 31, 2004	120,784	86,384	—	34,400
December 31, 2003	93,249	65,749	14,972	42,472

The following tables summarize the composition of short-term available-for-sale investments at June 30, 2005 and December 31, 2004. Fair value was determined based upon quoted market prices.

	As of June 30, 2005	
	Amortized Cost	Fair Value
Auction rate securities	$ 61,900	$ 61,900
U.S. corporate debt	27,013	26,984
	$ 88,913	$ 88,884

	As of December 31, 2004	
	Amortized Cost	Fair Value
Auction rate securities	$ 60,200	$ 60,200
U.S. corporate debt	13,517	13,503
Certificates of deposit	5,000	5,000
	$ 78,717	$ 78,703

The following tables summarize the contractual maturities of short-term available for sale investments at June 30, 2005 and December 31, 2004.

	As of June 30, 2005		
	Amortized Cost	Fair Value	Gross unrealized loss
Due in one year or less	$ 27,013	$ 26,984	$ (29)
Due after 10 years	61,900	61,900	—
	$ 88,913	$ 88,884	$ (29)

	As of December 31, 2004		
	Amortized Cost	Fair Value	Gross unrealized loss
Due in one year or less	$ 18,517	$ 18,503	$ (14)
Due after 10 years	60,200	60,200	—
	$ 78,717	$ 78,703	$ (14)

Note 3. Revenue Recognition

The Company’s revenue recognition policy involves significant judgment by management. As described in detail below, the Company considers a broad array of facts and circumstances in determining when to recognize revenue, including contractual obligations to the customer, the complexity of the customer’s post delivery acceptance provisions, payment history, customer creditworthiness and the installation process. In the future, if the post delivery acceptance provisions and installation process become more complex or result in a materially lower rate of acceptance, the Company may have to revise its revenue recognition policy, which could affect the timing of revenue recognition.

For revenue arrangements prior to July 1, 2003, Axcelis generally recognized the full sale price at the time of shipment to the customer. The costs of system installation at the customer’s site were accrued at the time of shipment for installation and acceptance testing performance obligations incurred at the time of sale. In addition, the standard and non-standard warranties were accrued at the time of shipment. The Company recognized the full sales price at the time of shipment, as management believed that the customer’s post delivery acceptance provisions and installation process were established to be routine, commercially inconsequential and perfunctory because the process was a replication of the pre-shipment procedures. Also, customer payment terms typically provided that the majority of the purchase price was payable upon shipment. Terms generally contained delayed payment arrangements for a portion of the purchase price, which were typically time-based.

In November 2002, the Financial Accounting Standards Board's Emerging Issues Task Force reached a consensus on Issue No. 00-21, "Accounting for Revenue Arrangements with Multiple Deliverables" ("EITF 00-21"). This issue addresses determination of whether an arrangement involving more than one deliverable contains more than one unit of accounting and how the arrangement consideration should be measured and allocated to the separate units of accounting. EITF 00-21 became effective for revenue arrangements entered into in periods beginning after June 15, 2003. For revenue arrangements occurring on or after July 1, 2003, the Company has revised its revenue recognition policy to comply with the provisions of EITF 00-21.

In December 2003, the Securities and Exchange Commission ("SEC") issued Staff Accounting Bulletin No. 104 ("SAB 104"), "Revenue Recognition." SAB 104 supersedes Staff Accounting Bulletin No. 101, "Revenue Recognition in Financial Statements" ("SAB 101"). SAB 104's primary purpose is to rescind accounting guidance contained in SAB 101 related to multiple element revenue arrangements, superseded as a result of the issuance of EITF 00-21. Additionally, SAB 104 rescinds the SEC's Revenue Recognition in Financial Statements Frequently Asked Questions and Answers ("the FAQ") issued with SAB 101 that had been codified in SEC Topic 13, Revenue Recognition. Selected portions of the FAQ have been incorporated into SAB 104. While the wording of SAB 104 has changed to reflect the issuance of EITF 00-21, the revenue recognition principles of SAB 101 remain largely unchanged by the issuance of SAB 104. As a result, the adoption of this pronouncement did not have any impact on the Company's consolidated financial statements.

Axcelis' revenue transactions include sales of systems under multiple element arrangements. Revenue under these arrangements is allocated to each element, except systems, based upon its estimated fair market value. The amount of revenue allocated to systems is calculated on a residual method. Under this method, the total value of the arrangement is allocated first to the undelivered elements, with the residual amount being allocated to systems revenue. The value of the undelivered elements includes (a) the greater of (i) the fair value of the installation or (ii) the portion of the sales price that will not be received until the installation is completed (the "retention") plus (b) the fair value of all other undelivered elements. The amount allocated to installation is based upon the fair value of the service performed, including labor, which is based upon the estimated time to complete the installation and hourly rates, and material components. The fair value of all other undelivered elements is based upon the price charged when these elements are sold separately. System revenue is generally recognized upon shipment provided title and risk of loss has passed to the customer, evidence of an arrangement exists, fees are contractually fixed or determinable, collectibility is reasonably assured through historical collection results and regular credit evaluations, and there are no uncertainties regarding customer acceptance. Revenue from installation services is recognized at the time formal acceptance is received from the customer or, for installation of certain systems to certain customers, when both the formal acceptance and retention payment have been received. Revenue for other elements is recognized at the time products are shipped or the related services are performed.

Management continues to believe recognition of systems revenue at the time of shipment is appropriate because the customer's post delivery acceptance provisions and installation process have been established to be routine, commercially inconsequential and perfunctory. The majority of Axcelis' systems are designed and tailored to meet the customer's specifications, as outlined in the contract between the customer and Axcelis, which may be the Axcelis standard specification. To ensure that the customer's specifications are satisfied, many customers request that newer systems be tested at Axcelis' facilities prior to shipment,

normally with the customer present, under conditions that substantially replicate the customer's production environment. Customers for mature products generally do not require pre-shipment testing. The Company believes the risk of failure to complete a system installation is remote. Should an installation not be completed successfully, the contractual provisions do not provide for forfeiture, refund or other purchase price concession beyond those prescribed by the provisions of the Uniform Commercial Code applicable generally to such transactions.

In the small number of instances where Axcelis is unsure of meeting the customer's specifications or obtaining customer acceptance upon shipment of the system or for initial shipments of systems with new technologies, Axcelis will defer the recognition of systems revenue until written customer acceptance of the system and or cash payment is obtained. This deferral period is generally within twelve months from shipment.

Services revenue includes revenue from spare parts, equipment upgrades and maintenance services. Revenue related to maintenance and service contracts is generally recognized ratably over the duration of the contracts, or based on parts usage, where appropriate. Revenue related to time and material services is recognized when the services are performed. Revenue related to spare parts sales is recognized upon the later of shipment or when the title and risk of loss passes to the customer. Revenue related to equipment upgrades is recognized upon the later of shipment or when the title and risk of loss passes to the customer, unless payment from the customer is contingent upon the upgrade being installed and accepted in which case revenue is deferred until that time.

Note 4. Net Income Per Share

Statement of Financial Accounting Standards No. 128 ("SFAS 128"), "Earnings Per Share," requires two presentations of earnings per share, "basic" and "diluted." Basic earnings per share is computed by dividing income available to common stockholders (the numerator) by the weighted-average number of common shares outstanding (the denominator) for the period. The computation of diluted earnings per share is similar to basic earnings per share, except that the denominator is increased to include the number of additional common shares that would have been outstanding if the potentially dilutive common shares had been issued. For the three and six months ended, June 30, 2004, respectively, $1,449 and $2,898 of convertible bond interest expense is added back to pro forma net income to calculate diluted earnings per share.

A reconciliation of net income and shares used in computing basic and diluted earnings per share follows:

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Income available to common stockholders	$ 749	$ 34,471	$ 2,647	$ 48,052
Weighted average common shares outstanding used in computing basic net income per share	100,199	99,286	100,169	99,247
Incremental shares	405	8,477	568	8,477
Weighted average common shares outstanding used in computing diluted net income per share	100,604	107,763	100,737	107,724
Basic net income per share	$ 0.01	$ 0.35	$ 0.03	$ 0.48
Diluted net income per share	0.01	0.33	0.03	0.47

The Company has excluded 6,250 of common stock equivalents attributable to conversion of its 4.25% convertible subordinated notes, computed using the if converted method, from the computation of diluted earnings per share for the three and six months ended June 30, 2005, because they were anti-dilutive. Additionally, the exercise prices for certain stock options that the Company has awarded exceed the average market price of the Company's common stock. Such stock options are anti-dilutive and were not included in the computation of diluted earnings per share. The anti-dilutive stock options outstanding were 11,186 and 11,054 for the three and six months ended June 30, 2005, respectively, and were 7,970 for both the three and six months ended June 30, 2004.

Note 5. Comprehensive Income (Loss)

The components of comprehensive income (loss) follow:

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Net income	$ 749	$ 34,471	$ 2,647	$ 48,052
Other comprehensive income (loss):				
Foreign currency translation adjustments	(5,121)	(4,076)	(10,521)	(1,342)
Unrealized gain (loss) on short term investments	10	(15)	(15)	(15)
Comprehensive income (loss)	$ (4,362)	$ 30,380	$ (7,889)	$ 46,695

Note 6. Inventories

The components of inventories follow:

	June 30, 2005	December 31, 2004
Raw materials	$ 76,465	$ 77,669
Work-in-process	29,023	29,134
Finished goods (completed systems)	3,747	9,527
	$ 109,235	$ 116,330

Note 7. Restructuring

The Company recorded restructuring charges of $2,083 and $3,882 for the three and six months ended June 30, 2005, respectively, primarily related to severance and other termination benefits associated with reduction in force actions and the consolidation of the Company's Rockville, Maryland operations into its headquarters and manufacturing facility located in Beverly, Massachusetts. In addition, asset impairment charges of $616 for both the three and six months ended June 30, 2005 associated with the write-off of leasehold improvements in the Rockville, Maryland operation are included in restructuring expense. The Company determined that it would not be able to recover the cost of these leasehold improvements through any future sublease income associated with this facility and, accordingly, recorded an impairment charge. In addition to amounts reported as restructuring expense, $1,760 and $2,828 of relocation and other incremental expenses related to these actions was recorded in general and administrative expense in the three and six months ended June 30, 2005, respectively.

In total the Company expects to incur approximately $11,000 to $12,000 in restructuring and general and administrative expenses related to both of these actions, of which $7,705 has been recognized in the income statement since the fourth quarter of 2004. The Company expects to incur $3,000 to $4,000 in additional expense over the third and fourth quarters of 2005. Of the total cost related to this action, approximately $10,000 of the $11,000 is expected to result in cash expenditures.

Changes in the Company's restructuring liability are as follows:

	Severance	Retention	Leases	Leasehold Improvements	Total
Balance at December 31, 2004	$ 724	$ 44	$ —	$ —	$ 768
Restructuring expense	1,946	503	817	616	3,882
Cash payments	(1,497)	(231)	(196)	—	(1,924)
Non-cash impairment	—	—	—	(616)	(616)
Balance at June 30, 2005	$ 1,173	$ 316	$ 621	$ —	$ 2,110

Amounts associated with the Company's restructuring liability are included in accrued compensation, other current liabilities and other long-term liabilities in the consolidated balance sheet.

Note 8. Product Warranty

The Company offers a one to three year warranty for all of its products, the terms and conditions of which vary depending upon the product sold. For all systems sold, the Company accrues a liability for the estimated cost of standard warranty at the time of system shipment and defers the portion of systems revenue attributable to the fair value of non-standard warranty. Factors that affect the Company's warranty liability include the number of installed units, historical and anticipated product failure rates, material usage and service labor costs. The Company periodically assesses the adequacy of its recorded liability and adjusts the amount as necessary.

Changes in the Company’s product warranty liability are as follows:

	Six months ended June 30,	
	2005	2004
Balance at December 31	$ 10,924	$ 17,197
Warranties issued during the period	4,505	10,646
Settlements made during the period	(4,625)	(11,536)
Changes in liability for pre-existing warranties during the period	(809)	(348)
Balance at June 30	$ 9,995	$ 15,959
Amount classified as current	$ 8,957	$ 13,123
Amount classified as long term	1,038	2,836
Balance at June 30	$ 9,995	$ 15,959

Note 9. Stock-Based Compensation

As permitted under Statement of Financial Accounting Standards (“SFAS”) No. 123, “Accounting for Stock-Based Compensation,” as amended by SFAS No. 148, “Accounting for Stock-Based Compensation Transition and Disclosure,” Axcelis has elected to follow the provisions of Accounting Principles Board (“APB”) No. 25, “Accounting for Stock Issued to Employees,” to account for stock-based awards to employees. Under APB No. 25, compensation expense with respect to such awards is not recognized, if, on the date the awards were granted, the exercise price was not less than the market value of the common shares.

As required by SFAS No. 123 the following pro forma information is presented as if Axcelis had accounted for stock-based awards to its employees granted subsequent to 1995 under the fair value method. The fair values of the options granted and shares purchased under the Employee Stock Purchase Plan have been estimated at the date of grant using the Black-Scholes options valuation model. The Black-Scholes options valuation model was developed for use in estimating the fair value of traded options that have no vesting restrictions and are fully transferable. In addition, option valuation models require the input of highly subjective assumptions, including the expected stock price volatility. Because Axcelis’ options have characteristics significantly different from those of traded options, and because changes in the subjective input assumptions can materially affect the fair value estimate, in the opinion of management, the existing models do not necessarily provide a reliable single measure of the fair value of the Company’s options.

For purposes of the following pro forma information, the estimated fair values of the options are assumed to be amortized to expense over the options’ vesting periods. For the three and six months ended, June 30, 2004, respectively, $1,449 and $2,898 of convertible bond interest expense is added back to pro forma net income to calculate diluted earnings per share.

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Net income	$ 749	$ 34,471	$ 2,647	$ 48,052
Deduct: Total stock-based employee compensation expense determined under fair value based method for all awards, net of related tax effects	(3,452)	(5,519)	(8,158)	(10,749)
Pro forma net income (loss)	$ (2,703)	$ 28,952	$ (5,511)	$ 37,303
Net income (loss) per share				
Basic – as reported	$ 0.01	$ 0.35	$ 0.03	$ 0.48
Basic – pro forma	(0.03)	0.29	(0.06)	0.38
Diluted – as reported	$ 0.01	$ 0.33	$ 0.03	$ 0.47
Diluted – pro forma	(0.03)	0.28	(0.06)	0.37

Note 10. Deferred Income Taxes

At December 31, 2004, the Company had $90.9 million of deferred tax assets relating to net operating loss carryforwards, tax credit carryforwards and other temporary differences, which are available to reduce income taxes in future years. SFAS No. 109 "Accounting for Income Taxes" requires that a valuation allowance be established when it is "more likely than not" that all or a portion of deferred tax assets will not be realized. A review of all available positive and negative evidence needs to be considered, including a company's performance, the market environment in which the company operates, length of carryback and carryforward periods, existing sales backlog, and projections of future operating results. Where there are cumulative losses in recent years, SFAS No. 109 creates a strong presumption that a valuation allowance is needed. This presumption can be overcome in very limited circumstances.

During the second quarter of 2003, the Company entered a three-year cumulative loss position and revised its projections of the amount and timing of profitability in future periods. As a result, the Company increased its valuation allowance to reduce the carrying value of deferred tax assets to zero.

The Company will maintain a full valuation allowance on future tax benefits until it can sustain an appropriate level of profitability. However, going forward should the Company’s return to profitability provide sufficient evidence, in accordance with the provisions of SFAS No. 109, to support the ultimate realization of income tax benefits attributable to net operating losses, tax credit carryforwards, and other deductible temporary differences, a reduction in the valuation allowance may be recorded and the carrying value of deferred tax assets may be restored, resulting in a non-cash credit to earnings.

Note 11. Recent Accounting Pronouncements

SFAS 151

In November 2004 the FASB issued Statement of Financial Accounting Standards No. 151 ("SFAS 151") "Inventory Costs, an amendment of ARB 43, Chapter 4". SFAS 151 amends the guidance in ARB No. 43, Chapter 4, "Inventory Pricing", to clarify the accounting for abnormal amounts of idle facility expense, freight, handling costs and wasted material (spoilage). SFAS 151 requires that idle facility expense, excessive spoilage, double freight, and rehandling costs be recognized as current period charges. In addition, SFAS 151 requires that allocation of fixed production overheads to the costs of conversion be based on the normal capacity of the production facilities. SFAS 151 is effective for inventory costs incurred during fiscal years beginning after June 15, 2005, however early adoption is permitted for inventory costs incurred during fiscal years beginning after November 2004. The Company plans to adopt SFAS 151 on January 1, 2006. The Company is assessing what effect, if any; adopting SFAS 151 will have on its financial position or results of operations.

SFAS 123R

On December 16, 2004 the FASB issued SFAS No. 123 (revised 2004), "Share-Based Payment" ("SFAS 123(R)"), which is a revision of SFAS No. 123, "Accounting for Stock-based Compensation". SFAS 123(R) supersedes APB Opinion No. 25, "Accounting for Stock Issued to Employees" and Amends SFAS No. 95, "Statement of Cash Flows". Generally, the approach in SFAS 123(R) is similar to the approach described in Statement 123. However, SFAS 123(R) requires all share-based payments to employees, including grants of employee stock options, to be recognized in the income statement based on their fair values. Pro forma disclosure is not an alternative. The Company plans to adopt SFAS 123(R) effective January 1, 2006.

SFAS 123(R) permits public companies to adopt its requirements using one of two methods: (1) a "modified prospective" approach or (2) a "modified retrospective" approach. Under the modified prospective approach, compensation cost is recognized beginning with the effective date based on (a) the requirements of SFAS 123(R) for all share based payments granted after the effective date and (b) the requirements of SFAS 123(R) for all awards granted to employees prior to the effective date of SFAS 123(R) that remain unvested on the effective date. The modified retrospective approach includes the requirements of the modified prospective approach, but also permits entities to restate based on the amounts previously recognized under SFAS 123 for purposes of pro forma disclosures either all prior periods presented or prior interim periods of the year of adoption. The Company is evaluating which method to adopt.

As permitted by SFAS 123, the Company currently accounts for share-based payments to employees using APB Opinion No. 25's intrinsic value method, and, as such, generally recognizes no compensation cost for employee stock options. Accordingly, the adoption of the fair value method will have a significant impact on our results of operations, although it will have no impact on our overall financial position. The impact of adoption of SFAS 123(R) cannot be predicted at this time because it will depend on levels of share-based payments granted in the future. However, had we adopted SFAS 123(R) in prior periods, the Company believes the impact of that standard would have approximated the impact of SFAS 123 as described above in the disclosure of pro forma net income (loss) and net income (loss) per share.

SFAS 123(R) also requires the benefits of tax deductions in excess of recognized compensation cost to be reported as a financing cash flow, rather than as an operating cash flow under current literature. Since the Company does not have the benefit of tax deductions in excess of recognized compensation cost, because of the Company's net operating loss position, this change will have no immediate impact on the Company's consolidated financial statements.

Note 12. Significant Customers

In the second quarter of 2005, one customer accounted for approximately 21% of revenue and a second customer accounted for approximately 10% of revenue. In the second quarter of 2004, one customer accounted for approximately 20% of revenue. For the six months ended, June 30, 2005 and 2004 one customer accounted for approximately 24% of revenue and a second customer accounted for approximately 18% of revenue. For the three and six months ended June 30, 2005 and 2004, no other customer accounted for more than 10% of revenue.

Note 13. Contingencies

Litigation

From time to time, the Company may be subject to legal proceedings and claims arising from the conduct of its business including litigation related to intellectual property matters, customer contract matters, employment claims and environmental matters. At June 30, 2005, the Company is not a party to any material legal proceedings.

Indemnifications

The Company's system sales agreements typically include provisions under which the Company agrees to take certain actions, provide certain remedies and defend its customers against third-party claims of intellectual property infringement under specified conditions and to indemnify customers against any damage and costs awarded in connection with such claims. The Company has not incurred any material costs as a result of such indemnifications and has not accrued any liabilities related to such obligations in the accompanying consolidated financial statements.

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

Certain statements in "Management's Discussion and Analysis of Financial Condition and Results of Operations" are forward-looking statements that involve risks and uncertainties. Words such as may, will, should, would, anticipates, expects, intends, plans, believes, seeks, estimates and similar expressions identify such forward-looking statements. The forward-looking statements contained herein are based on current expectations and entail various risks and uncertainties that could cause actual results to differ materially from those expressed in such forward-looking statements. Factors that might cause such a difference include, among other things, those set forth under "Liquidity and Capital Resources" and "Risk Factors" and those appearing elsewhere in this Form 10-Q. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis only as of the

date hereof. The Company assumes no obligation to update these forward-looking statements to reflect actual results or changes in factors or assumptions affecting forward-looking statements.

Overview

Axcelis Technologies, Inc. ("Axcelis" or the "Company"), is a worldwide producer of ion implantation, dry strip, thermal processing and curing equipment used in the fabrication of semiconductors. In addition, the Company provides extensive aftermarket service and support, including spare parts, equipment upgrades, and maintenance services. The Company owns 50% of the equity of a joint venture known as Sumitomo Eaton Nova Corporation, or "SEN" with Sumitomo Heavy Industries, Ltd. in Japan. SEN licenses technology from the Company relating to the manufacture of ion implantation products and has exclusive rights to manufacture and sell these products in the territory of Japan. SEN is the leading producer of ion implantation equipment in Japan.

The semiconductor capital equipment industry is subject to significant cyclical swings in capital spending by semiconductor manufacturers. Capital spending is influenced by demand for semiconductors and the products using them, the utilization rate and capacity of existing semiconductor manufacturing facilities and changes in semiconductor technology, all of which are outside of the Company's control. As a result, the Company's revenues and gross margins, to the extent affected by increases or decreases in volume, can fluctuate significantly from year to year and period to period. The Company's gross margins also may be affected by the introduction of new products. The Company typically becomes more efficient in producing its products as they mature. For example, the Company's gross margins in 2002, 2003 and 2004 were adversely affected in part as a result of the increased proportion of relatively new systems sold to process 300mm wafers. At December 31, 2004, gross margins on 300mm products were in-line with gross margins on the Company's 200mm products. The Company's expense base is largely fixed and does not vary significantly with changes in volume. Therefore, the Company expects to experience significant fluctuations in operating results and cash flows depending on the level of capital expenditures by semiconductor equipment manufacturers.

The substantial expense of building, upgrading or expanding a semiconductor fabrication facility is increasingly causing semiconductor companies to contract with foundries to manufacture their semiconductors. In addition, consolidation and joint venturing within the semiconductor manufacturing industry is increasing. The Company expects these trends to continue, which will reduce the number of our potential customers. This increased concentration of Axcelis' customers potentially makes its revenues more volatile as higher percentages of its total revenues are tied to a particular customer's or a small number of customers' buying decisions.

Axcelis accesses the important Japanese market for ion implant through a joint venture that the Company does not control. The joint venture agreement gives both owners veto rights, so that neither of the owners alone can effectively control SEN. SEN's business is subject to the same risks as the Company's business. Royalties and equity income from SEN have made a substantial contribution to the Company's earnings, and a substantial decline in SEN's sales and net income could have a material adverse effect on the Company's operating results. As a result of this joint venture structure, the Company has less control over SEN management than over the Company's own management and may not have timely knowledge of factors affecting SEN's business. In addition, given the equal balance of ownership, it is possible that the SEN Board may be unable to reach consensus on important matters from time to time which could delay important decisions. The license agreement between SEN and Axcelis continues in its existing form on a year-to-year basis, subject to the right of either party to terminate. Under the SEN bylaws, termination of the license agreement by SEN would be an important matter requiring approval of a majority of the SEN directors. Given Axcelis' 50% representation on the SEN Board, the license agreement will be perpetual until such time as Axcelis deems a termination to be in its interest. Axcelis has no present intent to terminate the SEN license agreement. During 2005, Axcelis intends to continue to pursue agreement with SEN on amendments to the license agreement to add additional licensed products and related royalty terms.

Operating results for the interim periods presented are not necessarily indicative of the results that may be expected for other interim periods or for the year as a whole.

Critical Accounting Estimates

Management's discussion and analysis of our financial condition and results of operations are based upon Axcelis' consolidated financial statements, which have been prepared in accordance with accounting principles generally accepted in the United States. The preparation of these financial statements requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses, and related disclosure of contingent assets and liabilities. On an on-going basis, the Company evaluates its estimates, including those related to revenue recognition, income taxes, accounts receivable, inventory and warranty obligations. Management bases its estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

The critical accounting estimates are those that the Company believes affect the more significant judgments and estimates used in the preparation of the Company's condensed consolidated financial statements. As of June 30, 2005 there have been no material changes to the critical accounting estimates as described in the Company's Management's Discussion and Analysis of Financial Condition and Results of Operations and in the Notes to the consolidated financial statements included in the Company's Annual Report on Form 10-K for the year ended December 31, 2004.

Results of Operations

The following table sets forth Axcelis' results of operations as a percentage of total revenue for the periods indicated:

	Three months ended June 30,		Six months ended June 30,	
	2005	2004	2005	2004
Revenue				
Systems	53.1%	70.6%	56.5%	69.5%
Services	42.3	27.2	40.3	28.1
Royalties, primarily from Sumitomo Eaton Nova Corporation	4.6	2.2	3.2	2.4
	100.0	100.0	100.0	100.0
Cost of revenue	57.8	54.8	58.0	58.5
Gross profit	42.2	45.2	42.0	41.5

Other costs and expenses				
Research & development	19.0	10.5	17.4	11.0
Selling	13.0	8.5	12.4	8.6
General & administrative	12.8	7.7	12.0	7.9
Amortization of intangible assets	0.7	0.4	0.6	0.4
Restructuring	2.3	—	2.0	—
	47.8	27.1	44.4	27.9
Income (loss) from operations	(5.6)	18.1	(2.4)	13.6
Other income (expense)				
Equity income of Sumitomo Eaton Nova Corporation	8.3	5.0	5.2	4.6
Interest income	1.4	0.2	1.2	0.2
Interest expense	(1.8)	(1.1)	(1.7)	(1.2)
Other-net	(0.5)	—	(0.2)	(0.2)
	7.4	4.1	4.4	3.4
Income before income taxes	1.9	22.2	2.0	17.0
Income taxes (credit)	1.0	(0.6)	0.6	0.2
Net income	0.8%	22.8%	1.4%	16.8%

Three and six months ended June 30, 2005 in comparison to the three and six months ended June 30, 2004.

Revenue

Revenue from system sales was $48.9 million, or 53.1% of revenue for the second quarter of 2005 compared with revenue from system sales of $106.8 million, or 70.6% of revenue for the second quarter of 2004. Revenue from system sales was $108.6 million, or 56.5% of revenue for the six months ended June 30, 2005 compared with revenue from system sales of $198.6 million, or 69.5% of revenue for the six months ended June 30, 2004. The decrease in sales of systems compared with 2004 was primarily attributable to the cyclicality of the semiconductor industry and the related declining market demand from the Company’s semiconductor manufacturing customers particularly with respect to capacity expansion at 200mm manufacturing facilities.

Approximately 43% of revenue from system sales for the second quarter of 2005 was from the sale of 200mm products and 57% was from the sale of 300mm products, compared with 72% and 28%, respectively, for the second quarter of 2004. For the six months ended June 30, 2005 approximately 37% was from the sale of 200mm products and 63% was from the sale of 300mm products compared with 63% and 37%, respectively for the six months ended, June 30, 2004. This highlights the market trend towards 300mm products and the decrease in expansion of facilities using 200mm products.

Services revenue, which include spare parts, equipment upgrades and maintenance services, was $39.0 million, or 42.3% of revenue for the second quarter of 2005 compared with $41.2 million, or 27.2% of revenue, for the second quarter of 2004. Service revenue was $77.4 million, or 40.3% of revenue for the six months ended June 30, 2005, compared with $80.3 million, or 28.1% of revenue for the six months ended June 30, 2004. Service revenues fluctuate with capacity utilization by the Company’s customers and the decline in service revenues for both the second quarter of 2005 and the six months ended June 30, 2005 as compared with the corresponding periods of the preceding year is attributable to declining utilization by semiconductor manufacturers.

As described in Note 3 to the consolidated financial statements “Revenue Recognition”, a portion of the Company’s revenue from system sales is deferred until installation and other services related to future deliverables are performed. The total amount of deferred revenue at June 30, 2005 and 2004 was $45.7 million and $38.0 million, respectively. Of the $45.7 million of deferred revenue at June 30, 2005, $33.3 million is expected to be recognized as revenue over the next twelve months.

Royalties were $4.2 million, or 4.6% of revenue, in the second quarter of 2005, compared with $3.3 million, or 2.2% of revenue, in the second quarter of 2004. Royalties for the six months ended June 30, 2005 were $6.1 million, or 3.2% of revenue, compared with $6.7 million, or 2.4% of revenue, in the six months ended June 30, 2004. Royalties are primarily earned under the terms of the Company’s license agreement with SEN. Royalties increased by $0.9 million in the second quarter of 2005 and decreased by $0.6 million for the six months ended June 30, 2005 as compared to their respective periods in 2004. Revenue changes are mainly attributed to fluctuations in SEN sales volume based on demand for equipment by Japanese semiconductor manufacturers.

Revenue from sales of ion implantation products and services accounted for $75.9 million, or 82.4%, of total revenue in the second quarter of 2005, compared with $120.9 million, or 79.9%, of total revenue in the second quarter of 2004. Revenue from sales of ion implantation products and services for the six months ended June 30, 2005 accounted for $153.8 million, or 80.0%, of total revenue, compared with $236.2 million, or 82.7% of revenue for the six months ended June 30, 2004. The lower proportion of total revenue from the sale of ion implantation products and services in 2005 is primarily a result of a decrease in capacity expansion by semiconductor manufacturers.

Worldwide revenues, including revenues of SEN, for the second quarter and six months ended June 30, 2005 were $191.4 million and $346.1 million, respectively. Worldwide revenues for the second quarter and six months ended June 30, 2005 decreased by $35.3 million and $88.1 million, respectively over the comparable periods in 2004 due to the decline in demand for equipment by semiconductor manufacturers discussed above and the timing of shipments in Japan. Axcelis believes that the information regarding the combined revenues of SEN, a 50% owned unconsolidated subsidiary of Axcelis, and Axcelis’ own revenues for the periods presented, is useful to investors. SEN’s ion implant products are covered by a license from Axcelis and therefore the combined revenue of the two companies indicates the full market penetration of Axcelis’ technology.

Gross Profit

Gross profit was 42.2% of revenue in the second quarter of 2005 compared with gross profit of 45.2% of revenue in the second quarter of 2004. The gross profit decrease of 3.0 percentage points was primarily due to unfavorable mix and volume variances on systems produced at higher operating overheads

(approximately 4.7 percentage points), unfavorable volume and mix on service revenues (approximately 4.1 percentage points), offset by the favorable effect of higher margin royalty revenue on lower overall revenue volume (approximately 3.3 percentage points), as well as the favorable impact from the timing of revenue recognition

related to previously deferred items (approximately 2.6 percentage points).

Gross profit was 42.0% of revenue for the six months ended June 30, 2005 compared with gross profit of 41.5% of revenue for the six months ended June 30, 2004. The gross profit increase of .5 percentage points was primarily due to the favorable impact from the timing of revenue recognition related to previously deferred items (approximately 2.8 percentage points) and the favorable impact of royalty revenue on lower overall revenue volume (approximately 2.0 percentage points), offset by the unfavorable impact of systems mix and systems produced at higher operating overheads (approximately 2.4 percentage points) and unfavorable volume and mix on service revenues (approximately 1.9 percentage points).

Research and Development

Research and development expense was $17.5 million in the second quarter of 2005, an increase of $1.6 million, or 10.0%, compared with $15.9 million in the second quarter of 2004 due to expenses associated with the timing of project material usage ($1.9 million) which were partially offset by lower payroll and payroll related expenses ($0.4 million). Research and development expense was $33.4 million for the six months ended June 30, 2005, an increase of $2.0 million, or 6.4%, compared with $31.4 million for the six months ended June 30, 2004 primarily due to expenses associated with the timing of project material usage ($2.7 million) and increased amortization related to demo tools used in Research and development ($0.6 million). Cost increases were partially offset by lower costs associated with variable compensation (1.1 million). The Company expects spending levels for research and development of $16.5 million to $17.5 million per quarter for 2005. Quarterly fluctuations are attributable principally to the timing of material usage and contract labor.

Selling

Selling expense was $12.0 million in the second quarter of 2005, a decrease of $0.8 million, or 6.3%, compared with $12.8 million in the second quarter of 2004 primarily due to lower payroll and payroll related expenses associated with reduction in force actions. Selling expense was $23.9 million for the six months ended June 30, 2005, a decrease of $0.5 million, or 2.5%, compared with $24.4 million for the six months ended June 30, 2004 primarily due to lower costs associated with reduction in force actions ($1.0 million).

General and Administrative

General and administrative expense was $11.8 million in the second quarter of 2005, an increase of $0.2 million, or 1.7%, compared with $11.6 million in the second quarter of 2004 primarily due to the consolidation of the Company’s Rockville, Maryland operations into its headquarters and manufacturing facility located in Beverly, Massachusetts ($1.8 million). Cost increases were offset in part by lower expenses associated with variable compensation ($0.6 million), lower fixed costs ($0.5 million) and lower legal and technical service costs ($0.5 million). General and administrative expense was $23.0 million for the six months ended June 30, 2005, an increase of $0.3 million, or 1.3%, compared with $22.7 million for the six months ended June 30, 2004 primarily due to the consolidation of the Company’s Rockville, Maryland operations into its headquarters and manufacturing facility located in Beverly, Massachusetts ($2.8 million). Cost increases were offset in part by lower costs associated with variable compensation ($1.5 million), lower legal expenses ($0.3 million) and lower fixed costs ($0.3 million).

Restructuring

Restructuring expense of $2.1 million in the second quarter of 2005 consists primarily of severance and other termination benefits related to reduction in force actions and the consolidation of the Company’s Rockville, Maryland operations into its headquarters and manufacturing facility located in Beverly, Massachusetts. In addition, are asset impairment charges of $0.6 million for both the three and six months ended June 30, 2005 associated with the write-off of leasehold improvements in the Rockville, Maryland operation are included in restructuring expense. The Company determined that it would not be able to recover the cost of these leasehold improvements through any future sublease income associated with this facility and, accordingly, recorded an impairment charge. In total, the Company expects to incur approximately $11.0 to $12.0 million in restructuring and general and administrative expenses related to both of these actions, of which $7.7 million has been recognized in the income statement since the fourth quarter of 2004. The Company expects to incur $3.0 to $4.0 million in additional expense over the third and fourth quarters of 2005. Of the total cost related to this action, approximately $10.0 to $11.0 million is expected to result in cash expenditures.

See Note 7 to the Notes to Consolidated Financial Statements for the detail of the Company’s restructuring liability.

Other Income (Expense)

Equity income attributable to SEN was $7.6 million for the second quarter of both 2005 and 2004. Equity income was $10.0 million for the six months ended June 30, 2005 compared with $13.1 million for the six months ended June 30, 2004. Fluctuations in equity contributions from SEN reflect changes in its sales volume and net income resulting from demand changes in the Japanese semiconductor market.

Interest income was $1.3 million and $0.3 million in the second quarter of 2005 and 2004. Interest income was $2.3 million for the six months ended June 30, 2005 compared with $0.6 million for the six months ended June 30, 2004. The increase in interest income primarily relates to increased levels of cash, cash equivalents and short-term investments in 2005, as well as higher interest rates.

Interest expense was $1.7 million for the second quarter of both 2005 and 2004, respectively. Interest expense was $3.3 million for the six months ended June 30, 2005 compared with $3.4 million for the six months ended June 30, 2004. Interest expense primarily relates to the Company's long-term debt issued in January 2002.

Income Taxes (Credit)

The Company recorded income tax expense of $1.0 million and $1.2 million in the three and six months ended June 30, 2005, respectively. The Company has significant net operating losses in the United States and certain foreign tax jurisdictions and, as a result, does not pay significant income taxes in those jurisdictions. In other foreign jurisdictions the Company is a taxpayer. Income tax expense in the three and six months ended June 30, 2005 represents the estimated annual effective tax rate based on estimated taxable income of only those foreign entities generating taxable income.

Income tax expense for the three and six month periods ended June 30, 2004 was reduced by $4.0 million as a result of reversal of income tax accruals recorded in prior years related to the underlying tax matters that were resolved in the second quarter of 2004. In 2004 the income tax provision was set at an estimated annual effective rate of 9%. Income tax expense for the three and six months ended June 30, 2004 relates principally to operating results of foreign entities in jurisdictions where the Company is taxable. Income tax expense attributable to U.S. operations is minimal because taxable income derived from the current year operating results is substantially offset by available net operating loss carryforwards.

Liquidity and Capital Resources

Cash, cash equivalents and short-term investments at June 30, 2005 were $178.9 million compared with $187.0 million at December 31, 2004. The $8.1 million decrease in cash, cash equivalents and short-term investments is mainly attributable to $4.1 million in capital expenditures, a $3.6 million increase in restricted cash, and $3.3 million in cash used from operations. Cash uses were partially offset by $2.3 million in proceeds from the exercise of stock options and the Employee Stock Purchase Plan.

Capital expenditures were $4.1 million and $2.0 million for the six months ended June 30, 2005 and 2004, respectively. The Company has no significant capital projects planned for 2005 and total capital expenditures are projected to be less than $10.0 million. Future capital expenditures beyond 2005 will depend on a number of factors, including the timing and rate of the expansion of the Company's business.

Expenditures for demo tools, used in-house for research and development and training, and evaluation tools, which are located at customers' sites and are being evaluated for potential purchase, were approximately $5.9 million and $11.7 million for the six months ended June 30, 2005 and 2004, respectively. Demo and evaluation tools are included in amounts reported as both other current assets and other assets.

The Company has no off-balance sheet arrangements other than foreign currency exchange contracts used to hedge the Company's royalty receivable from SEN ($1.7 million at June 30, 2005).

The Company has a $50 million revolving credit facility that expires in 2006. The purpose of the facility is to provide funds for working capital and general corporate purposes as required. To the extent that the Company has borrowings under the agreement, those borrowings would bear interest at the bank's base rate, as defined in the agreement, or LIBOR plus an applicable percentage. The Company currently has no plans to borrow against the facility but may use the facility to support letters of credit in the future. The credit facility is secured by substantially all of the Company's assets (excluding the Company's investment in SEN) and contains certain financial and other restrictive covenants including restrictions on the payment of dividends, minimum levels of tangible net worth, liquidity and profitability as well as maximum levels of indebtedness and capital spending. At June 30, 2005, the Company was in compliance with all covenants. The Company incurs an annual

commitment fee based on an EBITDA formula outlined in the agreement applied to the full commitment.

At June 30, 2005 the Company had outstanding standby letters of credit, bank guarantees and surety bonds of $15.6 million, which support certain operating lease obligations, the Company's workers' compensation insurance program, and certain value added tax refunds in Europe. In addition, at June 30, 2005, $10.0 million of cash was pledged as collateral for certain outstanding standby letters of credit and bank guarantees, and is reflected as restricted cash on the balance sheet.

Axcelis' liquidity is affected by many factors. Some of these factors are based on normal operations of the business and others relate to the uncertainties of global economies and the semiconductor equipment industry. Although cash requirements fluctuate based on the timing and extent of these factors, the Company believes that its existing cash and cash equivalents will be sufficient to satisfy the Company's anticipated cash requirements for at least the next twelve months.

Outlook

The Company's performance is directly related to its customer's capital spending plans, as well as operational improvements implemented by the Company in recent quarters. The level of capital expenditures by semiconductor manufacturers depends upon the current and anticipated market demand for semiconductors and the products utilizing them, the available manufacturing capacity in manufacturers' fabrication facilities, and the ability of manufacturers to increase productivity in existing facilities without incurring additional capital expenditures.

Since the third quarter of 2004, the Company has experienced a slowdown in capital spending by semiconductor manufacturers and customer requested delays of anticipated shipments and delays of customer orders. The Company, based on ongoing discussions with its customers of their future plans and requirements, is currently forecasting that revenues will decrease slightly in the quarter ended September 30, 2005 as compared to the quarter ended June 30, 2005.

On July 27, 2005, the Company announced that net revenues (excluding SEN) for the third quarter of 2005 are forecast in the range of $80.0 million to $90.0 million. Gross margin percentages are projected in the low 40's and net loss in the range of $0.06 to $0.10 per share. The Company has also forecast the contribution from SEN to decrease significantly to approximately $2.0 million for the quarter. The decrease in the SEN contribution is a result of fluctuations in volume due to demand changes in the Japanese semiconductor market.

It is difficult to predict the Company's customers' capital spending plans since they can change very quickly. At the Company's current sales level, each sale, or failure to make a sale, could have a material effect on the Company's results of operations in a particular quarter.

Risk Factors

Some of the matters discussed in this filing contain forward-looking statements regarding future events that are subject to risks and uncertainties. The following important factors, among others, could cause actual results to differ materially from those described by such statements. These factors include, but are not limited to: the cyclical nature of the semiconductor industry, the Company's ability to keep pace with rapid technological changes in semiconductor manufacturing processes, the highly competitive nature of the semiconductor equipment industry, quarterly fluctuations in operating results attributable to the timing and amount of orders for the Company's products and services, dependence on SEN for access to the Japanese semiconductor equipment market, and those risk factors contained in the section titled "Outlook" and Exhibit 99.1 of this Form 10-Q, which is incorporated herein by reference. If any of those risk factors actually occurs, the Company's business, financial condition and results of operations could be seriously harmed and the trading price of Axcelis' common stock could decline.

Item 3. Quantitative and Qualitative Disclosures about Market Risk

As of June 30, 2005, there have been no material changes to the quantitative and qualitative information about market risk disclosed in Item 7a to the Company's Form 10-K for the year ended December 31, 2004.

Item 4. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

The Company's management, with the participation of its principal executive officer and principal financial officer, has evaluated the effectiveness of the Company's disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities

Exchange Act of 1934, as amended (the "Exchange Act")) as of the end of the period covered by this quarterly report (the "Evaluation Date"). Based on this evaluation, the Company's principal executive officer and principal financial officer concluded that, as of the Evaluation Date, these disclosure controls and procedures are effective and designed to ensure that the information required to be disclosed in the Company's reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the requisite time periods.

Changes in Internal Control over Financial Reporting

There was no change in the Company's internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act) identified in connection with the evaluation of the Company's internal control performed during its second quarter of 2005 that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

PART II. OTHER INFORMATION

Item 1. Legal Proceedings

The Company is not a party to any material legal proceedings.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

None

Item 3. Defaults Upon Senior Securities

None

Item 4. Submission of Matters to a Vote of Security Holders

The Annual Meeting of Stockholders of Axcelis Technologies, Inc. was held at the offices of the Company at 108 Cherry Hill Drive, Beverly, Massachusetts on May 12, 2005. Out of 100,184,413 shares of Common Stock (as of the record date of March 21, 2005) entitled to vote at the meeting, 92,924,522 shares, or 92.7%, were present in person or by proxy.

(a) Election of Directors. Each of the three directors nominated for election at the Annual Meeting was elected by a plurality of votes cast, to serve for a three year term ending in 2008, and until their successors are elected. The vote was as follows:

Nominee	Number of Votes For	Number of Votes Withheld
R. John Fletcher	90,041,184	2,883,338
Stephen R. Hardis	62,086,517	30,838,005
H. Brian Thompson	88,226,084	4,698,438

(b) Ratification of Appointment of Auditors. A majority of the securities present, or represented, and entitled to vote at the meeting voted in favor of the proposal to ratify the appointment by the Board of Directors of Ernst & Young LLP as independent auditors of the Company's financial statements for the year ending December 31, 2005. The following sets forth the tally of the votes cast on the proposal:

Number of votes for	Number of votes against	Number of votes abstaining	Percentage For
91,226,257	1,638,587	59,678	98.17%

Item 5. Other Information

(a) Executive Officer Base Compensation and Incentive Targets.

On August 8, 2005, Marc S. Levine commenced employment as Senior Vice President, Advanced Product Development. The Compensation Committee of the Company's Board of Directors set the base compensation payable to Mr. Levine at $250,000 and the percentage of base salary designated as Mr. Levine's target cash bonus amount under the Company's annual bonus plan, the Axcelis Team Incentive Plan, at 50%. For 2005, the Company has also committed to a minimum payout of $75,000 under the Axcelis Team Incentive Plan. In establishing this cash compensation, the Committee applied its compensation philosophy to provide base salaries and target bonus 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.

The Axcelis Team Incentive Plan for Executive Officers adopted by the Compensation Committee of the Board of Directors on January 26, 2005 is filed as Exhibit 10.12 to the Company's Form 10-K for the year ended December 31, 2004 (incorporated by reference to Exhibit 10.1 to the Company's Report on Form 8-K filed with the Commission on January 31, 2005). A description of the implementation of such plan for the fiscal year ending December 31, 2005 is described in such Form 8-K.

Item 6. Exhibits

Exhibits are numbered in accordance with the Exhibit Table of Item 601 of Regulation S-K:

Exhibit No.	Description
3.1	Amended and Restated Certificate of Incorporation of the Company. Incorporated by reference to Exhibit 3.1 of the Company's Registration Statement on Form S-1 (Registration No. 333-36330).
3.2	Bylaws of the Company, as amended as of January 23, 2002. Incorporated by reference to Exhibit 3.2 of the Company's Form 10-K for the year ended December 31, 2001, filed with the Commission on March 12, 2002.
3.3	Certificate of Designation of Series A Participating Preferred Stock, filed with the Secretary of State of Delaware on July 5, 2000. Incorporated by reference to Exhibit 3.3 of the Company's Form 10-K for the year ended December 31, 2000, filed with the Commission on March 30, 2001.
4.1	Indenture between the Company and State Street Bank and Trust Company, as Trustee, including the form of note, dated as of January 15, 2002. Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed with the Commission on January 15, 2002.
4.5	Revolving Credit Agreement dated as of October 3, 2003 among the Company, ABN Amro Bank N.V. and the other lenders named therein, as amended by the First Amendment to Revolving Credit Agreement, dated as of May 3, 2004. Pursuant to Regulation S-K, Item 601(b)(4)(iii), this exhibit has not been filed, since the total amount of the facility does not exceed 10% of the Company's total assets at this time. The Company will furnish a copy of the Credit Agreement to the Commission on request.
10.1	Axcelis Technologies, Inc. Employee Stock Purchase Plan, as amended through May 12, 2005, effective January 1, 2006. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on May 13, 2005.
10.2	Form of Change in Control Agreement, as amended on May 12, 2005, between the Company and the Company's executive officers. Filed herewith.
10.3	Non-Employee Director Compensation effective July 1, 2005. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K filed with the Commission on June 28, 2005.
10.4	Axcelis Technologies, Inc. 2000 Stock Plan, as amended through June 23, 2005. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K filed with the Commission on June 28, 2005.
10.5	Form of Restricted Stock Unit Award Agreement for use under the 2000 Stock Plan. Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K filed with the Commission on June 28, 2005.
10.6	Form of Restricted Stock Agreement for use under the 2000 Stock Plan. Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K filed with the Commission on June 28, 2005.
10.7	Executive Separation Agreement dated as of July 1, 2005 between the Company and David W. Duff, Ph.D. Filed herewith.
31.1	Certification of the Principal Executive Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated August 9, 2005. Filed herewith.
31.2	Certification of the Principal Financial Officer under Exchange Act Rule 13a-14(a)/15d-14(a) (Section 302 of the Sarbanes-Oxley Act), dated August 9, 2005. Filed herewith.

32.1	Certification of the Principal Executive Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906 of the Sarbanes-Oxley Act), dated August 9, 2005. Filed herewith.
32.2	Certification of the Principal Financial Officer pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code (Section 906 of the Sarbanes-Oxley Act), dated August 9, 2005. Filed herewith.
99.1	Factors Affecting Future Operating Results for the Form 10-Q for the period ended June 30, 2005. Filed herewith.
99.2	Governance Policies adopted by the Board of Directors of Axcelis on September 25, 2002 and amended on October 22, 2003 and June 22, 2005. Filed herewith.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AXCELIS TECHNOLOGIES, INC.

/s/ Stephen G. Bassett

DATED: August 9, 2005

By: Stephen G. Bassett, Chief Financial Officer
Duly authorized officer and Principal Financial Officer

CHANGE OF CONTROL AGREEMENT

AGREEMENT by and between AXCELIS TECHNOLOGIES, INC., a Delaware corporation (the "Company"), and (the "Executive"), dated as of the day of , 200 .

The Board of Directors of the Company (the "Board") has determined that it is in the best interests of the Company and its shareholders to assure that the Company will have the continued dedication of the Executive, notwithstanding the possibility, threat or occurrence of a Change of Control (as defined below) of the Company. The Board believes it is imperative to diminish the inevitable distraction of the Executive by virtue of the personal uncertainties and risks created by a pending or threatened Change of Control and to encourage the Executive's full attention and dedication to the Company currently and in the event of any threatened or pending Change of Control, and to provide the Executive with compensation and benefits arrangements upon a Change of Control which ensure that the compensation and benefits expectations of the Executive will be satisfied and which are competitive with those of other corporations. Therefore, in order to accomplish these objectives, the Board has caused the Company to enter into this Agreement.

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

1. **Certain Definitions**.

1.1. The "Effective Date" shall mean the first date during the Change of Control Period (as defined in Section 1.2) on which a Change of Control (as defined in Section 2) occurs. Anything in this Agreement to the contrary notwithstanding, if a Change of Control occurs and if the Executive's employment with the Company is terminated prior to the date on which the Change of Control occurs, and if it is reasonably demonstrated by the Executive that such termination of employment (i) was at the request of a third party who has taken steps reasonably calculated to effect a Change of Control or (ii) otherwise arose in connection with or anticipation of a Change of Control, then for all purposes of this Agreement the "Effective Date" shall mean the date immediately prior to the date of such termination of employment.

1.2. The "Change of Control Period" shall mean the period commencing on the date hereof and ending on the third anniversary of the date hereof; provided, however, that commencing on the date one year after the date hereof, and on each annual anniversary of such date (such date and each annual anniversary thereof shall be hereinafter referred to as the "Renewal Date"), unless previously terminated, the Change of Control Period shall be automatically extended so as to terminate three years from such Renewal Date, unless at least 60 days prior to the Renewal Date the Company shall give notice to the Executive that the Change of Control Period shall not be so extended.

2. **Change of Control**. For the purpose of this Agreement, a "Change of Control" shall mean:

2.1. The acquisition by any individual, entity or group (within the meaning of Section 13(d)(3) or 14(d)(2) of the Securities Exchange Act of 1934, as amended (the "Exchange Act")) (a "Person") of beneficial ownership (within the meaning of Rule 13d-3 promulgated under the Exchange Act) of 25% or more of either (i) the then outstanding shares of common stock of the Company (the "Outstanding Company Common Stock") or (ii) the combined voting power of the then outstanding voting securities of the Company entitled to vote generally in the election of directors (the "Outstanding Company Voting Securities"); provided, however, that for purposes of this subsection 2.1, the following acquisitions shall not constitute a Change of Control: (i) any acquisition directly from the Company, (ii) any acquisition by the Company, or (iii) any acquisition by any employee benefit plan (or related trust) sponsored or maintained by the Company or any corporation controlled by the Company; or

2.2. Individuals who, as of the date hereof, constitute the Board (the "Incumbent Board") cease for any reason to constitute at least a majority of the Board; provided, however, that any individual becoming a director subsequent to the date hereof whose election, or nomination for election by the Company's shareholders, was approved by a vote of at least two-thirds of the directors then comprising the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a Person other than the Board; or

2.3. Consummation by the Company of a reorganization, merger or consolidation or sale or other disposition of all or substantially all of the assets of the Company or the acquisition of assets of another corporation (a "Business Combination"), in each case, unless, following such Business Combination, (i) all or substantially all of the individuals and entities who were the beneficial owners, respectively, of the Outstanding Company Common Stock and Outstanding Company Voting Securities immediately prior to such Business Combination beneficially own, directly or indirectly, more than 75% of, respectively, the then outstanding shares of common stock and the combined voting power of the then outstanding voting securities entitled to vote generally in the election of directors, as the case may be, of the corporation resulting from such Business Combination (including, without limitation, a corporation which as a result of such transaction owns the Company or all or substantially all of the Company's assets either directly or through one or more subsidiaries) in substantially the same proportions as their ownership, immediately prior to such Business Combination of the Outstanding Company Common Stock and Outstanding Company Voting Securities, as the case may be, (ii) no Person (excluding any employee benefit plan (or related trust) of the Company or such corporation resulting from such Business Combination) beneficially owns, directly or indirectly, 25% or more of, respectively, the then outstanding shares of common stock of the corporation resulting from such Business Combination or the combined voting power of the then outstanding voting securities of such corporation except to the extent that such ownership existed prior to the Business Combination and (iii) at least a majority of the members of the board of directors of the corporation resulting from such Business Combination were members of the

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Incumbent Board at the time of the execution of the initial agreement, or of the action of the Board, providing for such Business Combination; or

2.4. Approval by the shareholders of the Company of a complete liquidation or dissolution of the Company.

Notwithstanding the foregoing, a "Change of Control" shall not be deemed to have occurred as a result of any transaction or series of transactions (i) which the Executive, or any entity in which the Executive is a partner, officer or more than 50% owner initiates, if immediately following the transaction or series of

transactions that would otherwise constitute a Change in Control, the Executive, either alone or together with other individuals who are executive officers of the Company immediately prior thereto, beneficially owns, directly or indirectly, more than 10% of the then outstanding shares of common stock of the Company or the corporation resulting from the transaction or series of transactions, as applicable, or of the combined voting power of the then outstanding Voting Securities of the Company or such resulting corporation; or (ii) an offering of Company Voting Securities to the public directly by the Company, or any subsidiary or affiliate.

3. **Non-Compete and Non-Solicitation**. The Executive hereby agrees with the Company that for a period of 12 months following any termination of employment of the Executive, for any reason, and whether occurring before or after the Effective Date:

3.1. Non-Compete. The Executive shall not, without the prior written consent of the Chief Executive Officer of the Company, directly or indirectly, engage in, be employed by, act as a consultant or advisor to, be a director, officer, owner or partner of, or acquire an interest in, any business competing with any of the businesses conducted by the Company or any of its subsidiaries or affiliates, nor directly or indirectly have any interest in, own, manage, operate, control, be connected with as a stockholder, lender, joint venturer, officer, employee, partner or consultant, or otherwise engage, invest or participate in any business that is competitive with any of the businesses conducted by the Company or by any subsidiary or affiliate of the Company; provided, however, that nothing contained in this Section 3 shall prevent the Executive from investing or trading in publicly traded stocks, bonds, commodities or securities or in real estate or other forms of investment for Executive's own account and benefit (directly or indirectly);

3.2. Non-Solicitation of Employees. The Executive shall not actively solicit any employee of the Company or any of its subsidiaries or affiliates to leave the employment thereof; and the Executive shall not enter onto Company property without prior written consent from the Chief Executive Officer of the Company or other executive officer of the Company; and

3.3. Non-Solicitation of Customers. The Executive shall not induce or attempt to induce any customer, supplier, licensor, licensee or other individual, corporation or business organization having a business relationship with the Company or its subsidiaries or affiliates to cease doing business with the Company or its subsidiaries or affiliates or in any way interfere with the relationship between any such customer, supplier, licensor, licensee or other individual, corporation or business organization and the Company or its subsidiaries or affiliates.

Solicitation of customers for the purposes of this obligation refers to existing and/or contemplated products as of the time of Executive's termination of employment.

3.4. Extension of Time. The applicable time periods set forth in this Section 3 shall be extended by the time of any (1) breach by the Executive of any terms of this Agreement, or (2) litigation involving the Executive and the Company in respect of any of the provisions of this Agreement (whether by the Executive seeking relief from the terms hereof or by the Company seeking to enforce the terms hereof or otherwise).

4. **Employment Period**. The Company hereby agrees to continue the Executive in its employ, and the Executive hereby agrees to remain in the employ of the Company subject to the terms and conditions of this Agreement, as such may be supplemented or modified by an employment agreement, if any, between the Company and the Executive, for the period commencing on the Effective Date and ending on the third anniversary of such date (the "Employment Period").

5. **Terms of Employment**.

5.1. Position and Duties.

(a) During the Employment Period, (i) the Executive's position (including status, offices, titles and reporting requirements), authority, duties and responsibilities shall be at least commensurate in all material respects with the most significant of those held, exercised and assigned to the Executive at any time during the 120-day period immediately preceding the Effective Date and (ii) the Executive's services shall be performed at the location where the Executive was employed immediately preceding the Effective Date or any office or location less than 35 miles from such location.

(b) During the Employment Period, and excluding any periods of vacation and sick leave to which the Executive is entitled, the Executive agrees to devote reasonable attention and time during normal business hours to the business and affairs of the Company and, to the extent necessary to discharge the responsibilities assigned to the Executive hereunder, to use the Executive's reasonable best efforts to perform faithfully and efficiently such responsibilities. During the Employment Period it shall not be a violation of this Agreement for the Executive to (A) serve on corporate, civic or charitable boards or committees, (B) fulfill speaking engagements and (C) manage personal investments, so long as such activities do not significantly interfere with the performance of the Executive's responsibilities as an employee of the Company in accordance with this Agreement. It is expressly understood and agreed that to the extent that any such activities have been conducted by the Executive prior to the Effective Date, the continued conduct of such activities (or the conduct of activities similar in nature and scope thereto) subsequent to the Effective Date shall not thereafter be deemed to interfere with the performance of the Executive's responsibilities to the Company.

5.2. Compensation.

(a) Base Salary. During the Employment Period, the Executive shall receive an annual base salary ("Annual Base Salary"), which shall be paid at a monthly rate, at least equal to twelve times the highest monthly base salary paid or payable, including any base salary which has been earned but deferred, to the Executive by the Company and its affiliated companies in respect of the twelve-month period immediately preceding the month in which the Effective Date occurs. During the Employment Period, the Annual Base Salary shall be increased no more than 12 months after the last salary increase awarded to the Executive prior to the Effective Date, and thereafter at least annually, in each case by a percentage not less than the average annual percentage merit increase in the Executive's base salary during the five (5) full calendar years immediately preceding the Effective Date. Any increase in Annual Base Salary shall not serve to limit or reduce any other obligation to the Executive under this Agreement. Annual Base Salary shall not be reduced after any such increase and the term Annual Base Salary as utilized in this Agreement shall refer to Annual Base Salary as so increased. As used in this Agreement, the term "affiliated companies" shall include any company controlled by, controlling or under common control with the Company.

(b) Annual Bonus. In addition to Annual Base Salary, the Executive shall be awarded, for each fiscal year ending during the Employment Period, an annual bonus (the "Annual Bonus") in cash in an amount (the "Annual Bonus Amount") at least equal to the Executive's Annual Bonus opportunity for the most recent year for which an annual Bonus opportunity was established before the Effective Date under the Company's then annual incentive plan or program, adjusted by the average of the Executive's individual performance rating for each of the three most recent years ended before the Effective Date, but eliminating any corporate performance measure. Each such Annual Bonus shall be paid no later than the end of the third month of the fiscal year next following the fiscal year for which the Annual Bonus is awarded, unless the Executive shall elect to defer the receipt of such Annual Bonus.

(c) Incentive, Savings and Retirement Plans. During the Employment Period, the Executive shall be entitled to participate in all incentive, employee stock purchase, savings and retirement plans, practices, policies and programs applicable generally to other peer executives of the Company and its affiliated companies, but in no event shall such plans, practices, policies and programs provide the Executive with incentive opportunities (measured with respect to both regular and special incentive opportunities, to the extent, if any, that such distinction is applicable), savings opportunities and retirement benefit opportunities, in each case, less favorable, in the aggregate, than the most favorable of those provided by the Company and its affiliated companies for the Executive under such plans, practices, policies and programs as in effect at any time during the 120-day period immediately preceding the Effective Date or if more favorable to the Executive, those provided generally at any time after the Effective Date to other peer executives of the Company and its affiliated companies.

(d) Welfare Benefit Plans. During the Employment Period, the Executive and/or the Executive's family, as the case may be, shall be eligible for participation in and shall

receive all benefits under welfare benefit plans, practices, policies and programs provided by the Company and its affiliated companies (including, without limitation, medical, prescription, dental, disability, salary continuance, employee life, group life, accidental death and travel accident insurance plans and programs) to the extent applicable generally to other peer executives of the Company and its affiliated companies, but in no event shall such plans, practices, policies and programs provide the Executive with benefits which are less favorable, in the aggregate, than the most favorable of such plans, practices, policies and programs in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, those provided generally at any time after the Effective Date to other peer executives of the Company and its affiliated companies.

(e) Expenses. During the Employment Period, the Executive shall be entitled to receive prompt reimbursement for all reasonable expenses incurred by the Executive in accordance with the most favorable policies, practices and procedures of the Company and its affiliated companies in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(f) Fringe Benefits. During the Employment Period, the Executive shall be entitled to fringe benefits in accordance with the most favorable plans, practices, programs and policies of the Company and its affiliated companies in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(g) Office and Support Staff. During the Employment Period, the Executive shall be entitled to an office or offices of a size and with furnishings and other appointments, and to personal secretarial and other assistance, at least equal to the most favorable of the foregoing provided to the Executive by the Company and its affiliated companies at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as provided generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

(h) Vacation. During the Employment Period, the Executive shall be entitled to paid vacation in accordance with the most favorable plans, policies, programs and practices of the Company and its affiliated companies as in effect for the Executive at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies.

6. **Termination of Employment.**

6.1. Death or Disability. The Executive's employment shall terminate automatically upon the Executive's death during the Employment Period. If the Company determines in good faith that the Disability of the Executive has occurred during the Employment Period (pursuant to the definition of Disability set forth below), it may give to the Executive written notice in accordance with Section 14.2 of this Agreement of its intention to terminate the Executive's employment. In such event, the Executive's employment with the Company shall terminate effective on the 30th day after receipt of such notice by the Executive (the "Disability Effective Date"), provided that, within the 30 days after such receipt, the Executive shall not have returned to full-time performance of the Executive's duties. For purposes of this Agreement, "Disability" shall mean the absence of the Executive from the Executive's duties with the Company on a full-time basis for 180 consecutive business days as a result of incapacity due to mental or physical illness or injury which is determined to be total and permanent by a physician selected by the Company or its insurers and acceptable to the Executive or the Executive's legal representative.

6.2. Cause. The Company may terminate the Executive's employment during the Employment Period for Cause. For purposes of this Agreement, "Cause" shall mean:

(a) the willful and continued failure of the Executive to perform substantially the Executive's duties with the Company or one of its affiliates (other than any such failure resulting from incapacity due to physical or mental illness), after a written demand for substantial performance is delivered to the Executive by the Board or the Chief Executive Officer of the Company which specifically identifies the manner in which the Board or Chief Executive Officer believes that the Executive has not substantially performed the Executive's duties, or

(b) the willful engaging by the Executive in illegal conduct or gross misconduct which is materially and demonstrably injurious to the Company.

For purposes of this provision, no act or failure to act, on the part of the Executive, shall be considered "willful" unless it is done, or omitted to be done, by the Executive in bad faith or without reasonable belief that the Executive's action or omission was in the best interests of the Company. Any act, or failure to act, based upon authority given pursuant to a resolution duly adopted by the Board or upon the instructions of the Chief Executive Officer or a senior officer of the Company or based upon the advice of counsel for the Company shall be conclusively presumed to be done, or omitted to be done, by the Executive in good faith and in the best interests of the Company. The cessation of employment of the Executive shall not be deemed to be for Cause unless and until there shall have been delivered to the Executive a copy of a resolution duly adopted by the affirmative vote of not less than three-quarters of the entire membership of the Board at a meeting of the Board called and held for such purpose (after reasonable notice is provided to the Executive and the Executive is given an opportunity, together with counsel, to be heard before the Board), finding that, in the good faith opinion of the Board, the Executive is guilty of the conduct described in subparagraph (a) or (b) above, and specifying the particulars thereof in detail.

6.3. Good Reason. The Executive's employment may be terminated by the Executive for Good Reason. For purposes of this Agreement, "Good Reason" shall mean:

(a) the assignment to the Executive of any duties inconsistent in any respect with the Executive's position (including status, offices, titles and reporting requirements), authority, duties or responsibilities as contemplated by Section 5.1 of this Agreement, or any other action by the Company which results in a diminution in such position, authority, duties or responsibilities, excluding for this purpose an isolated, insubstantial and inadvertent action not taken in bad faith and which is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(b) any failure by the Company to comply with any of the provisions of Section 5.2 of this Agreement, other than an isolated, insubstantial and inadvertent failure not occurring in bad faith and which is remedied by the Company promptly after receipt of notice thereof given by the Executive;

(c) the Company's requiring the Executive to be based at any office or location other than as provided in Section 5.1(a)(ii) hereof or the Company's requiring the Executive to travel on Company business to a substantially greater extent than required immediately prior to the Effective Date;

(d) any purported termination by the Company of the Executive's employment otherwise than as expressly permitted by this Agreement; or

(e) any failure by the Company to comply with and satisfy Section 12.3 of this Agreement.

For purposes of this Section 6.3, any good faith determination of "Good Reason" made by the Executive shall be conclusive.

6.4. Notice of Termination. Any termination by the Company for Cause, or by the Executive for Good Reason, shall be communicated by Notice of Termination to the other party hereto given in accordance with Section 14.2 of this Agreement. For purposes of this Agreement, a "Notice of Termination" means a written notice which (i) indicates the specific termination provision in this Agreement relied upon, (ii) to the extent applicable, sets forth in reasonable detail the facts and circumstances claimed to provide a basis for termination of the Executive's employment under the provision so indicated and (iii) if the Date of Termination (as defined below) is other than the date of receipt of such notice, specifies the termination date (which date shall be not more than thirty days after the giving of such notice). The failure by the Executive or the Company to set forth in the Notice of Termination any fact or circumstance which contributes to a showing of Good Reason or Cause shall not waive any right of the Executive or the Company, respectively, hereunder or preclude the Executive or the Company, respectively, from asserting such fact or circumstance in enforcing the Executive's or the Company's rights hereunder.

6.5. Date of Termination. "Date of Termination" means (i) if the Executive's employment is terminated by the Company for Cause, or by the Executive for Good Reason, the date of receipt of the Notice of Termination or any later date specified therein, as the case may be, (ii) if the Executive's employment is terminated by the Company other than for Cause or Disability, the date on which the Company notifies the Executive of such termination and (iii) if the Executive's employment is terminated by reason of death or Disability, the date of death of the Executive or the Disability Effective Date, as the case may be.

7. **Obligations of the Company upon Termination**.

7.1. Good Reason; Other Than for Cause, Death or Disability. If, during the Employment Period, the Company shall terminate the Executive's employment other than for Cause or Disability or the Executive shall terminate employment for Good Reason:

(a) the Company shall pay to the Executive the aggregate of the following amounts:

(i) in a lump sum in cash within 30 days after the Date of Termination the sum of (1) the Executive's Annual Base Salary through the Date of Termination, to the extent not theretofore paid to the Executive, (2) the amount, if any, which has been earned by the Executive with respect to any completed Incentive Year under the Company's Incentive Compensation Plan or any successor thereto, and any completed Award Period under the Company's Axcelis Team Incentive Plan or any successor thereto, in each case to the extent not theretofore paid to the Executive, and (3) with respect to each Award Period under the Company's Axcelis Team Incentive Plan or any successor thereto which begins before and ends after the Date of Termination, an amount equal to (x) 100% of the Executive's Individual Incentive Target (as defined in such plan) for such Award Period times (y) a fraction, the numerator of which is the number of days in such Award Period before the Date of Termination, and the denominator of which is the total number of days in such Award Period (the sum of the amounts described in clauses (1), (2) and (3) shall be hereinafter referred to as the "Accrued Obligations"); and

(ii) in a lump sum in cash within 30 days after the Date of Termination, the product of (1) the Multiple (as defined below) and (2) the sum of (x) the Executive's Annual Base Salary and (y) the Annual Bonus Amount (hereinafter referred to as the "Severance Obligations");

(b) for a number of years after the Executive's Date of Termination equal to the lesser of two and the Multiple, or such longer period as may be provided by the terms of the appropriate plan, program, practice or policy, the Company shall continue benefits to the Executive and/or the Executive's family at least equal to those which would have been provided to them in accordance with the plans, programs, practices and policies described in Section 5.2(d) of this Agreement if the Executive's employment had not been terminated or, if more favorable to the Executive, as in effect generally at any time thereafter with respect to other peer executives of the Company and its affiliated companies and their families, provided, however, that (1) if the

Executive becomes re-employed with another employer and is eligible to receive medical or other welfare benefits under another employer-provided plan, the medical and other welfare benefits described herein shall be secondary to those provided under such other plan during such applicable period of eligibility, and for purposes of determining eligibility (but not the time of commencement of benefits) of the Executive for retiree benefits pursuant to such plans, practices, programs and policies, the Executive shall be considered to have remained employed for a number of years after the Date of Termination equal to the lesser of two and the Multiple and to have retired on the last day of such period; (2) the Company shall not be obligated to continue benefits under this Section 7.1(b) to the extent such benefits cannot be continued in accordance with the plan or policy under which such benefits are being provided to employees generally at the Date of Termination and (3) in any event, under the Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA), Executive may continue Executive's then current medical and/or dental coverage and Executive's dependents' then current medical and/or dental coverage for up to eighteen (18) months from the Date of Termination upon payment of monthly premiums and administrative fees;

(c) to the extent not theretofore paid or provided, the Company shall timely pay or provide to the Executive any other amounts or benefits required to be paid or provided or which the Executive is eligible to receive under any plan, program, policy or practice or contract or agreement of the Company and its affiliated companies, excluding any amounts or benefits which are subject to the discretion of the Board of Directors, such as future equity grants (such other amounts and benefits shall be hereinafter referred to as the "Other Benefits"); and

(d) all stock options, restricted stock, restricted stock units and other stock interests or stock-based rights awarded to the Executive by the Company on or before the Date of Termination shall become fully vested as of the Date of Termination, subject to their early termination or expiration (if applicable) in accordance with the terms of each such stock option or other award.

The "Multiple" means the lesser of (i) three and (ii) the number of years and portions thereof (expressed as a decimal fraction) from the Date of Termination until the Executive's 65th birthday.

7.2. Death. If the Executive's employment is terminated by reason of the Executive's death during the Employment Period, this Agreement shall terminate without further obligations to the Executive's legal representatives under this Agreement, other than for payment of Accrued Obligations and the timely payment or provision of Other Benefits. Accrued Obligations shall be paid to the Executive's estate or beneficiary, as applicable, in a lump sum in cash within 30 days of the Date of Termination. With respect to the provision of Other Benefits, the term Other Benefits as utilized in this Section 7.2 shall include, without limitation, and the Executive's estate and/or beneficiaries shall be entitled to receive, benefits at least equal to the most favorable benefits provided by the Company and affiliated companies to the estates and beneficiaries of peer executives of the Company and such affiliated companies under such plans, programs, practices and policies relating to death benefits, if any, as in effect with respect to other peer executives and their beneficiaries at any time during the 120-day period immediately

preceding the Effective Date or, if more favorable to the Executive's estate and/or the Executive's beneficiaries, as in effect on the date of the Executive's death with respect to other peer executives of the Company and its affiliated companies and their beneficiaries.

7.3. Disability. If the Executive's employment is terminated by reason of the Executive's Disability during the Employment Period, this Agreement shall terminate without further obligations to the Executive, other than for payment of Accrued Obligations and the timely payment or provision of Other Benefits. Accrued Obligations shall be paid to the Executive in a lump sum in cash within 30 days of the Date of Termination. With respect to the provision of Other Benefits, the term Other Benefits as utilized in this Section 7.3 shall include, and the Executive shall be entitled after the Disability Effective Date to receive, disability and other benefits at least equal to the most favorable of those generally provided by the Company and its affiliated companies to disabled executives and/or their families in accordance with such plans, programs, practices and policies relating to disability, if any, as in effect generally with respect to other peer executives and their families at any time during the 120-day period immediately preceding the Effective Date or, if more favorable to the Executive and/or the Executive's family, as in effect at any time thereafter generally with respect to other peer executives of the Company and its affiliated companies and their families.

7.4. Cause; Other than for Good Reason. If the Executive's employment shall be terminated for Cause during the Employment Period, this Agreement shall terminate without further obligations to the Executive other than the obligation to pay to the Executive (x) the Annual Base Salary through the Date of Termination and (y) Other Benefits, in each case to the extent theretofore unpaid. If the Executive voluntarily terminates employment during the Employment Period, excluding a termination for Good Reason, this Agreement shall terminate without further obligations to the Executive, other than for Accrued Obligations and the timely payment or provision of Other Benefits. In such case, all Accrued Obligations shall be paid to the Executive in a lump sum in cash within 30 days of the Date of Termination.

8. **Non-exclusivity of Rights**. Nothing in this Agreement shall prevent or limit the Executive's continuing or future participation in any plan, program, policy or practice provided by the Company or any of its affiliated companies and for which the Executive may qualify, nor, subject to the last sentence of this Section 8 and to Section 14.6, shall anything herein limit or otherwise affect such rights as the Executive may have under any contract or agreement with the Company or any of its affiliated companies. Without limiting the generality of the foregoing, the Company and the Executive may, but shall not be required to, enter into an employment agreement setting forth certain terms and conditions of the Executive's employment and, if an employment agreement is in effect, the terms and conditions of this Agreement shall be and remain in full force and effect and the terms and conditions of that employment agreement shall be deemed to supplement but not supersede the terms and conditions of this Agreement; provided, however, the Executive shall be entitled to receive the greater of the amounts and benefits due under this Agreement or such employment agreement but not the aggregate of the amounts

and benefits under both such agreements. If amounts and benefits are due under this Agreement and under an employment agreement, the amounts due under this Agreement shall be paid and the Company will be obligated under the employment agreement only to the extent the amounts and

benefits under the employment agreement exceed the amounts actually paid under this Agreement. Amounts which are vested benefits or which the Executive is otherwise entitled to receive under any plan, policy, practice or program of or any contract or agreement with the Company or any of its affiliated companies at or subsequent to the Date of Termination shall be payable in accordance with such plan, policy, practice or program or contract or agreement except as explicitly modified by this Agreement. Notwithstanding the foregoing, if the Executive becomes entitled to receive severance benefits under Section 7.1 hereof, such severance benefits shall be in lieu of any benefits under any severance or separation plan, program or policy of the Company or any of its affiliated companies to which the Executive would otherwise have been entitled.

9. **Full Settlement; Legal Fees**. The Company's obligation to make the payments provided for in this Agreement and otherwise to perform its obligations hereunder shall not be affected by any set-off, counterclaim, recoupment, defense or other claim, right or action which the Company may have against the Executive or others. In no event shall the Executive be obligated to seek other employment or take any other action by way of mitigation of the amounts payable to the Executive under any of the provisions of this Agreement and except as specifically provided in Section 7.1(b), such amounts shall not be reduced whether or not the Executive obtains other employment. The Company agrees to pay as incurred, to the full extent permitted by law, all legal fees and expenses which the Executive may reasonably incur as a result of any contest (regardless of the outcome thereof) by the Company, the Executive or others of the validity or enforceability of, or liability under, any provision of this Agreement or any guarantee of performance thereof (whether such contest is between the Company and the Executive or between either of them and any third party, and including as a result of any contest by the Executive about the amount of any payment pursuant to this Agreement), plus in each case interest on any delayed payment at the applicable Federal rate provided for in Section 7872(f)(2)(A) of the Internal Revenue Code of 1986, as amended (the "Code").

10. **Certain Additional Payments by the Company.**

10.1. Anything in this Agreement to the contrary notwithstanding, in the event it shall be determined that any payment or distribution by the Company to or for the benefit of the Executive (whether paid or payable or distributed or distributable pursuant to the terms of this Agreement or otherwise, but determined without regard to any additional payments required under this Section 10) (a "Payment") would be subject to the excise tax imposed by Section 4999 of the Code or any interest or penalties are incurred by the Executive with respect to such excise tax (such excise tax, together with any such interest and penalties, being hereinafter collectively referred to as the "Excise Tax"), then the Executive shall be entitled to receive an additional payment (a "Gross-Up Payment") in an amount such that after payment by the Executive of all taxes (including any interest or penalties imposed with respect to such taxes), including, without limitation, any income taxes (and any interest and penalties imposed with respect thereto) and Excise Tax imposed upon the Gross-Up Payment, the Executive retains an amount of the Gross-Up Payment equal to the Excise Tax imposed upon the Payments.

10.2. Subject to the provisions of Section 10.3, all determinations required to be made under this Section 10, including whether and when a Gross-Up Payment is required and the

amount of such Gross-Up Payment and the assumptions to be utilized in arriving at such determination, shall be made by a nationally recognized certified public accounting firm as may be designated by the Executive (the "Accounting Firm"), which shall provide detailed supporting calculations both to the Company and to the Executive within 15 business days of the receipt of notice from the Executive that there has been a Payment, or such earlier time as is requested by the Company. In the event that the Accounting Firm is serving as accountant or auditor for the individual, entity or group effecting the Change of Control, the Executive shall appoint another nationally recognized accounting firm to make the determinations required hereunder (which accounting firm shall then be referred to as the Accounting Firm hereunder). All fees and expenses of the Accounting Firm shall be borne solely by the Company. Any Gross-Up Payment, as determined pursuant to this Section 10, shall be paid by the Company to the Executive within five days of the receipt of the Accounting Firm's determination. Any determination by the Accounting Firm shall be binding upon the Company and the Executive. As a result of the uncertainty in the application of Section 4999 of the Code at the time of the initial determination by the Accounting Firm hereunder, it is possible that Gross-Up Payments which will not have been made by the Company should have been made ("Underpayment"), consistent with the calculations required to be made hereunder. In the event that the Company exhausts its remedies pursuant to Section 10.3 and the Executive thereafter is required to make a payment of any Excise Tax, the Accounting Firm shall determine the amount of the Underpayment that has occurred and any such Underpayment shall be promptly paid by the Company to or for the benefit of the Executive.

10.3. The Executive shall notify the Company in writing of any claim by the Internal Revenue Service that, if successful, would require the payment by the Company of the Gross-Up Payment. Such notification shall be given as soon as practicable but no later than ten business days after the Executive is informed in writing of such claim and shall apprise the Company of the nature of such claim and the date on which such claim is requested to be paid. The Executive shall not pay such claim prior to the expiration of the 30-day period following the date on which he gives such notice to the Company (or such shorter period ending on the date that any payment of taxes with respect to such claim is due). If the Company notifies the Executive in writing prior to the expiration of such period that it desires to contest such claim, the Executive shall:

(a) give the Company any information reasonably requested by the Company relating to such claim,

(b) take such action in connection with contesting such claim as the Company shall reasonably request in writing from time to time, including, without limitation, accepting legal representation with respect to such claim by an attorney reasonably selected by the Company,

(c) cooperate with the Company in good faith in order effectively to contest such claim, and

(d) permit the Company to participate in any proceedings relating to such claim;

provided, however, that the Company shall bear and pay directly all costs and expenses (including additional interest and penalties) incurred in connection with such contest and shall indemnify and hold the Executive harmless, on an after-tax basis, for any Excise Tax or income tax (including interest and penalties with respect thereto) imposed as a result of such representation and payment of costs and expenses. Without limitation on the foregoing provisions of this Section 10.3, the Company shall control all proceedings taken in connection with such contest and, at its sole option, may pursue or forgo any and all administrative appeals, proceedings, hearings and conferences with the taxing authority in respect of such claim and may, at its sole option, either direct the Executive to pay the tax claimed and sue for a refund or contest the claim in any permissible manner, and the Executive agrees to prosecute such contest to a determination before any administrative tribunal, in a court of initial jurisdiction and in one or more appellate courts, as the Company shall determine; provided, however, that if the Company directs the Executive to pay such claim and sue for a refund, the Company shall advance the amount of such payment to the Executive, on an interest-free basis and shall indemnify and hold the Executive harmless, on an after-tax basis, from any Excise Tax or income tax (including interest or penalties with respect thereto) imposed with respect to such advance or with respect to any imputed income with respect to such advance; and further provided that any extension of the statute of limitations relating to payment of taxes for the taxable year of the Executive with respect to which such contested amount is claimed to be due is limited solely to such contested amount. Furthermore, the Company's control of the contest shall be limited to issues with respect to which a Gross-Up Payment would be payable hereunder and the Executive shall be entitled to settle or contest, as the case may be, any other issue raised by the Internal Revenue Service or any other taxing authority.

10.4. If, after the receipt by the Executive of an amount advanced by the Company pursuant to Section 10.3, the Executive becomes entitled to receive any refund with respect to such claim, the Executive shall (subject to the Company's complying with the requirements of Section 10.3) promptly pay to the Company the amount of such refund (together with any interest paid or credited thereon after taxes applicable thereto). If, after the receipt by the Executive of an amount advanced by the Company pursuant to Section 10.3, a determination is made that the Executive shall not be entitled to any refund with respect to such claim and the Company does not notify the Executive in writing of its intent to contest such denial of refund prior to the expiration of 30 days after such determination, then such advance shall be forgiven and shall not be required to be repaid and the amount of such advance shall offset, to the extent thereof, the amount of Gross-Up Payment required to be paid.

11. **Confidential Information**. The Executive shall hold in a fiduciary capacity for the benefit of the Company all secret or confidential information, knowledge or data relating to the Company or any of its affiliated companies, and their respective businesses, which shall have been obtained by the Executive during the Executive's employment by the Company or any of its affiliated companies and which shall not be or become public knowledge (other than by acts by the Executive or representatives of the Executive in violation of this Agreement). After termination of the Executive's employment with the Company, the Executive shall not, without the prior written consent of the Company or as may otherwise be required by law or legal process, communicate or divulge any such information, knowledge or data to anyone other than the Company

and those designated by it. In no event shall an asserted violation of the provisions of this Section 11 constitute a basis for deferring or withholding any amounts otherwise payable to the Executive under this Agreement.

12. **Successors**.

12.1. This Agreement is personal to the Executive and without the prior written consent of the Company shall not be assignable by the Executive otherwise than by will or the laws of descent and distribution. This Agreement shall inure to the benefit of and be enforceable by the Executive's legal representatives.

12.2. This Agreement shall inure to the benefit of and be binding upon the Company and its successors and assigns.

12.3. The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company to assume expressly and agree to perform this Agreement in the same manner and to the same extent that the Company would be required to perform it if no such succession had taken place. As used in this Agreement, "Company" shall mean the Company as hereinbefore defined and any successor to its business and/or assets as aforesaid which assumes and agrees to perform this Agreement by operation of law, or otherwise.

13. **Trust Deposit**.

13.1. Upon the occurrence of a Proposed Change of Control (as defined below) during the Change of Control Period, the Company shall deposit in trust or escrow with a third party cash in an amount sufficient to provide all of the benefits and other payments to which the Executive would be entitled hereunder if a Change of Control occurred on the date of the Proposed Change of Control and the Executive's employment were terminated by the Executive for Good Reason immediately thereafter. Upon such deposit, references hereunder to any payment by the Company shall be deemed to refer to a payment from such trust or escrow; provided, however, that nothing contained herein shall relieve the Company of its obligation to make the payments required of it hereunder in the event any such payment is not made from the trust or escrow.

13.2. "Proposed Change of Control" means:

(a) the commencement of a tender or exchange offer by any third person (other than a tender or exchange offer which, if consummated, would not result in a Change of Control) for 25% or more of the Outstanding Company Common Stock or combined voting power of the Outstanding Company Voting Securities;

(b) the execution of an agreement by the Company, the consummation of which would result in the occurrence of a Change of Control;

(c) the public announcement by any person (including the Company) of an intention to take or to consider taking actions which if consummated would constitute a Change of Control other than through a contested election for directors of the Company; or

(d) the adoption by the Board, as a result of other circumstances, including circumstances similar or related to the foregoing, of a resolution to the effect that, for purposes of this Agreement, a Proposed Change of Control has occurred.

14. **Miscellaneous**.

14.1. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts, without reference to principles of conflict of laws. The captions of this Agreement are not part of the provisions hereof and shall have no force or effect. This Agreement may not be amended or modified otherwise than by a written agreement executed by the parties hereto or their respective successors and legal representatives.

14.2. All notices and other communications hereunder shall be in writing and shall be given by hand delivery to the other party or by registered or certified mail, return receipt requested, postage prepaid, addressed as follows:

If to the Executive:

____
108 Cherry Hill Drive
Beverly, MA 01915

If to the Company:

Axcelis Technologies, Inc.
108 Cherry Hill Drive
Beverly, MA 01915
Attention: Corporate Secretary

or to such other address as either party shall have furnished to the other in writing in accordance herewith. Notice and communications shall be effective when actually received by the addressee.

14.3. The invalidity or unenforceability of any provision of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement.

14.4. The Company may withhold from any amounts payable under this Agreement such Federal, state, local or foreign taxes as shall be required to be withheld pursuant to any applicable law or regulation.

14.5. The Executive's or the Company's failure to insist upon strict compliance with any provision hereof or any other provision of this Agreement or the failure to assert any right the Executive or the Company may have hereunder, including, without limitation, the right

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of the Executive to terminate employment for Good Reason pursuant to Section 6.3 (a) –(e) of this Agreement, shall not be deemed to be a waiver of such provision or right or any other provision or right of this Agreement.

14.6. The Executive and the Company acknowledge that, except as may otherwise be provided under any other written agreement between the Executive and the Company, the employment of the Executive by the Company is "at will" and, prior to the Effective Date, the Executive's employment may be terminated by either the Executive or the Company at any time prior to the Effective Date, in which case the Executive shall have no further rights under this Agreement. From and after the Effective Date, this Agreement shall supersede any other agreement between the parties with respect to the subject matter hereof.

IN WITNESS WHEREOF, the Executive has hereunto set the Executive's hand and, pursuant to the authorization from its Board of Directors, the Company has caused this Agreement to be executed in its name on its behalf, all as of the day and year first above written.

Witness:

____

EXECUTIVE:

____

____

ATTEST :

____

AXCELIS TECHNOLOGIES, INC.

By: ______________________________
Title: ______________________________

AXCELIS TECHNOLOGIES, INC.

EXECUTIVE SEPARATION AGREEMENT

THIS EXECUTIVE SEPARATION AGREEMENT, dated as of July1, 2005, is made by and between Axcelis Technologies, Inc. (hereinafter referred to as the "Company") and David W. Duff (hereinafter referred to as "Executive"). In consideration of the mutual covenants contained herein, the parties agree as follows:

1. Termination of Active Employment; Separation Period. Executive's active employment with the Company will terminate not later than Friday, July 29, 2005 (the "Separation Commencement Date"). During the period from July 30, 2005 through April 28, 2006, Executive will continue to provide services to the Company on a part time basis from his home office. As described in Section 2, Executive will receive the salary continuation and benefits during the period following the Separation Commencement Date and ending Friday, April 28, 2006 (the "Separation Period"). It is understood that Executive may accept employment with a third party during the Separation Period. During the Separation Period, the Executive shall:

1.1. engage in special projects mutually agreed upon with the Chief Executive Officer;

1.2. cooperate with the reasonable requests of the Company to support the transition of the Executive's duties to other Company personnel; and

1.3. continue to be an employee to the extent necessary to provide the benefits described in Section 2.

At the end of the Separation Period, all aspects of Executive's employment shall terminate (the Termination Date").

2. Termination Compensation.

2.1. Axcelis Time Management (ATM). Executive will receive a lump sum amount for his ATM balance, following the commencement of the Separation Period (ATM will cease to accrue as of the commencement of the Separation Period).

2.2. Salary Continuation. The Company will pay Executive, on a salary continuation basis, Executive's base salary at the Separation Commencement Date during the Separation Period, less legally required payroll tax deductions and the elective deductions referred to in Section 2.4.

2.3. Benefits. **Attachment A** sets forth detailed information on the impact of Executive's separation on Company-provided benefits. During the Separation Period, the Company shall:

(a) Allow Executive to continue to contribute to the Company's 401(k) Plan, (the Executive shall receive any contribution that may be made by the Company to his account) to the extent permissible under the Plan and applicable law and maintain Executive's status as employed for the purposes of the Eaton Cash Balance Plan, if applicable;

(b) Allow Executive to continue to participate in the Company's Employee Stock Purchase Plan in accordance with plan terms, subject to the applicable deductions from the payments under Section 2.1 to reflect such participation;

(c) Allow Executive to continue to vest in his stock options until the Termination Date and to exercise any vested options until the Termination Date and for 90 days thereafter, to the extent so provided in the option;

(d) Continue Executive's participation in the medical and dental plans (including the Mass General Hospital Executive Registry Program) selected by Executive prior to the Separation Commencement Date, subject to the applicable deductions from the payments under Section 2.1 to reflect such participation (Executive will cease to be covered by the Company's short and long term disability insurance Company-provided life insurance upon the Separation Commencement Date);

(e) Continue to afford the Executive the privileges afforded under the "Executive Tax Preparation and Financial Planning Program" subject to the limits outlined in the program overview document;

(f) The Company agrees to allow the Executive to retain the laptop computer used by him during the Separation Period;

(g) The Company agrees to allow Executive to maintain email during his Separation Period or until Executive finds other employment; and

(h) The Company agrees to give the mobile phone to the Executive and pay the Executive a lump sum amount to cover cell phone premiums at his plan level (but not more than $99 per month) covering the Separation Period.

2.4. Outplacement Services. At the request of Executive, the Company will pay up to $12,500 for an outplacement service for services rendered in assisting Executive in locating other employment. These payments are contingent upon Executive's cooperation with the outplacement service and upon active efforts by Executive to locate another position.

2.5. Executive Acknowledgement of Compensation. The Executive acknowledges that in exchange for entering into this Agreement the Executive has received good, sufficient and valuable consideration in excess of that to which the Executive would otherwise have been entitled in the absence of this Agreement. The Executive acknowledges

that the Executive has been paid in full for any and all wages, including accrued unused vacation pay. Unless otherwise provided for expressly in this Agreement, all other benefits have ceased as of the Separation Commencement Date.

2.6. Effect of Breach on Compensation. The Executive agrees that the compensation and benefits contained in this Agreement and which flow to the Executive from the Company are subject to termination, reduction or cancellation in the event that the Executive takes any action or engages in any conduct deemed by the Company to be in violation of this Agreement.

3. Executive Obligations.

3.1. Return of Property. The Executive shall return all papers, files, documents, computers, reference guides, equipment, keys, identification, credit cards, software, computer access codes, disks and institutional manuals, or other property belonging to the Company within one week after the Separation Commencement Date; provided the Executive shall return the laptop computer referenced in Section 2 above not later than the end of the Separation Period. The Executive shall not retain any copies, duplicates, reproductions or excerpts of any of the Company's property. The Executive may retain copies of all agreements between the Executive and the Company and other documents relating to his personal performance.

3.2. Nondisclosure of Confidential Information. During the course of the Executive's employment with the Company, the Executive has become acquainted with and/or developed confidential information belonging to the Company and its customers. The Executive agrees not to use or to disclose to any person or entity any confidential information of the Company or of any past or present customer of the Company, including but not limited to financial data or projections, customer lists, projects, economic information, systems, plans, methods, procedures, operations, techniques, know-how, trade secrets or merchandising or marketing strategies. In addition, Executive shall continue to be bound by the terms of Employee Invention Assignment, and Confidentiality Agreement, which the Executive executed in connection with his employment. That Agreement is affixed hereto and incorporated by reference as **Attachment B**.

3.3. Nondisparagement. Provided the Executive is not in breach of his obligations under this Agreement, the Company agrees not to disparage or make negative statements about the Executive. The Executive agrees not to disparage or make negative statements about the Company or any of its officers, directors, agents, employees, successors and assigns.

3.4. Non-Compete and Non-Solicitation. The Executive hereby agrees with the Company that for a period of 12 months following the Termination Date:

(a) The Executive shall not, without the prior written consent of the Chief Executive Officer of the Company, directly or indirectly, engage in, be employed by, act as a consultant or advisor to, be a director, officer, owner or partner of, or acquire an interest in, any

business engaged in manufacturing implant, rapid thermal processing, photostabilization or dry strip semiconductor processing systems (a "competitive business"), nor directly or indirectly have any interest in, own, manage, operate, control, be connected with as a stockholder, lender, joint venturer, officer, employee, partner or consultant, or otherwise engage, invest or participate in any competitive business; provided, however, that nothing contained in this Section 3.4 shall prevent the Executive from investing or trading in publicly traded stocks, bonds, commodities or securities or in real estate or other forms of investment for Executive's own account and benefit (directly or indirectly);

(b) The Executive shall not actively solicit any employee of the Company or any of its subsidiaries or affiliates to leave the employment thereof; and the Executive shall not enter onto Company property without prior written consent from the Chief Executive Officer of the Company or other executive officer of the Company; and

(c) The Executive shall not induce or attempt to induce any customer, supplier, licensor, licensee or other individual, corporation or business organization having a business relationship with the Company or its subsidiaries or affiliates to cease doing business with the Company or its subsidiaries or affiliates or in any way interfere with the relationship between any such customer, supplier, licensor, licensee or other individual, corporation or business organization and the Company or its subsidiaries or affiliates. Solicitation of customers for the purposes of this obligation refers to existing and/or contemplated products as of the time of this Agreement.

(d) The applicable time periods set forth in this Section 3.4 shall be extended by the time of any (1) breach by the Executive of any terms of this Agreement, or (2) litigation involving the Executive and the Company in respect of any of the provisions of this Agreement (whether by the Executive seeking relief from the terms hereof or by the Company seeking to enforce the terms hereof or otherwise).

3.5. Resignations from Corporate Office. Not later than the Separation Commencement Date, the Executive will execute and deliver to the Company his resignation as a Vice President of the Company and any subsidiaries of the Company, attached here to as **Attachment C**. Executive expressly acknowledges that the compensation payable to Executive under this Agreement is in full satisfaction of any compensation due to him in connection with his corporate positions described in this Section 3.5.

3.6. Sumitomo Eaton Nova Corporation. Concurrently with the execution of this Agreement, the Executive will execute and deliver to the Company his resignation as a Director of Sumitomo Eaton Nova Corporation ("SEN"), in the form attached here to as **Attachment D**. The Company shall determine when and if the Executive's resignation is submitted to SEN. Executive shall, at the Company's request and expense, continue to serve as a member of the Board of Directors of SEN until the earlier of (a) the date his resignation from such Board is submitted by the Company and become effective or (b) Executive's term of office expires on June 30, 2006. The Executive agrees to cooperate in all ways (including with respect to Board votes) with the Company's instructions relating to his membership on the SEN Board and resignation from such Board. Executive expressly acknowledges that the compensation

payable to Executive under this Agreement is in full satisfaction of any compensation due to him in connection with his corporate positions described in this Section 3.6.

3.7. Cooperation. The Executive will cooperate fully with the Company in its defense of or other participation in any administrative, judicial or other proceeding arising from any charge, complaint or other action which has been or may be filed against the Company and with respect to which Executive has knowledge. The Executive agrees to be responsive to requests for information related to the smooth transition of a successor to his position.

4. SEC Reporting and Applicability of the Company's Insider Trading Policy.

4.1. Rule 144. For the purposes of Rule 144 promulgated by the Securities Exchange Commission, the Executive shall cease to be an "affiliate" of the Company on the Separation Commencement Date.

4.2. Section 16 Reporting. The Executive shall cease to be a reporting person under the Securities Exchange Act of 1934, as amended, as of the Separation Commencement Date, provided however, the Executive must file a Form 4 with the SEC to report any purchase, sale, or option exercise after the Separation Commencement Date if the transaction occurs within six months following a Form 4 transaction going the opposite way (e.g., sale vs. purchase) prior to the Separation Commencement Date.

5. Insider Trading Policy. Assuming the Executive does not acquire material non-public information after the Separation Commencement Date, beginning on the date two trading days after the Company's public announcement of its earnings for the fiscal quarter ending after the Separation Commencement Date, the Executive will no longer be subject to restrictions on trading arising under the Company's insider trading policy.

6. General Release and Covenant Not to Sue.

6.1. Release. In consideration of the Company's covenants in this Agreement, the Executive hereby releases and discharges the Company and its officers, directors, agents, employees, successors and assigns ("Released Parties") from any and all claims by the Executive arising before the signing of this Agreement, including all claims arising out of the Executive's employment with the Company or the termination thereof (except (1) those relating to performance of this Agreement, (2) the Company's obligations under the Indemnification Agreement between the Executive and the Company dated August 6, 2002 (the "Indemnification Agreement") and (3) the Company's obligations under the Change of Control Agreement dated August 6, 2002 if Executive can reasonably demonstrate, based solely on events occurring prior to July 29, 2005, that Executive's termination of employment (i) was at the request of a third party who has taken steps reasonably calculated to effect a Change of Control or (ii) otherwise arose in connection with or anticipation of a Change of Control) and claims arising under common law and claims arising under federal or state labor and employment laws and laws prohibiting discrimination on the basis of age, sex, race, national origin or disability. The laws

referred to in the preceding sentence include Title VII of the Civil Rights Act of 1964, as amended; the Equal Pay Act of 1963, as amended; the Age Discrimination in Employment Act of 1967 (ADEA), as amended; the Fair Labor Standards Act of 1938, as amended; the Americans With Disabilities Act of 1990, as amended; the Rehabilitation Act of 1973, as amended; the Family and Medical Leave Act of 1993, as amended; Chapter 151B of the Massachusetts General Laws, Chapter 149 of the Massachusetts General Laws; the Massachusetts Civil Rights Act and the Massachusetts Equal Rights Law; the Worker Adjustment and Retraining Notification ("WARN") Act; Maryland Ann. Code Article 100 Sections 88-94, and Maryland Ann. Code Article 49B, Sections 1 *et seq;* or any other state or federal law, order, public policy or regulation affecting or relating to the rights and/or claims of employees. Nothing in this Agreement shall be construed to be a release of certain ADEA and Title VII rights that is not allowed by law, except that the Executive waives and shall not accept any damages from any such claims.

6.2. Covenant Not to Sue. The Executive represents and warrants that he has not filed any complaints, charges, or claims for relief against the Released Parties with any local, state or federal court or administrative agency. The Executive agrees and covenants not to sue or bring any claims or charges against the Released Parties with respect to any matters arising out of or relating to the Executive's employment with or separation from the Company, other than enforcement of the terms of this Agreement or the Indemnification Agreement. In the event that the Executive institutes any such action, that claim shall be dismissed upon presentation of this Agreement and he shall reimburse the Company for all legal fees and expenses incurred in defending such claim and obtaining its dismissal.

6.3. No Implied Admission. It is understood and agreed that this Agreement does not constitute any admission by the Company that any action taken with respect to the Executive was unlawful or wrongful, or that such action constituted a breach of contract or violated any federal or state law, policy, rule or regulation.

7. Compliance with Federal Older Workers Benefit Protection Act of 1990.

7.1. Time To Consider Agreement. The Executive acknowledges that he has been advised in writing to consult with an attorney and has had ample opportunity to consult with and review this Agreement with an attorney of his choice, and has been given a period of at least forty-five (45) days within which to consider whether to sign this Agreement. If the Executive has signed this Agreement prior to the end of this forty-five (45) day period, he represents that he has done so knowingly and voluntarily.

7.2. Revocation Right. It is agreed and understood that for a period of seven (7) days following the execution of this Agreement, which period shall end at 5:00 p.m. on the seventh day following the date of execution by the Executive, he may revoke this Agreement. This Agreement will not become effective until this revocation period has expired. This seven (7) day revocation period cannot be shortened by agreement of the parties or by any other means.

8. Miscellaneous.

8.1. Availability of Equitable Remedies. The Executive agrees and warrants that the covenants contained herein are reasonable, that valid consideration has been and will be received therefor and that the agreements set forth herein are the result of arms-length negotiations between the parties hereto. The Executive recognizes and acknowledges that the provisions of Section 3 are vitally important to the continuing welfare of the Company, and its subsidiaries and affiliates, and that money damages constitute a totally inadequate remedy for any violation thereof. Accordingly, in the event of any such violation by the Executive, the Company, and its subsidiaries and affiliates, in addition to any other remedies they may have, shall have the right to institute and maintain a proceeding to compel specific performance thereof or to obtain an injunction restraining any action by the Executive in violation of Section 3.

8.2. Severability. In the event that any provision of this Agreement is found by a court, arbitrator or other tribunal to be illegal, invalid or unenforceable, then such provision shall not be voided, but shall be enforced to the maximum extent permissible under applicable law, and the remainder of this Agreement shall remain in full force and effect.

8.3. Entire Agreement. This Agreement and its Exhibits constitutes the entire agreement between the parties about or relating to the Executive's termination of employment from the Company, or the Company's obligations to the Executive with respect to his termination and fully supersedes any and all prior agreements or understanding between the parties, other than the Indemification Agreement.

8.4. Binding Benefit. This agreement shall be binding on the parties and upon their heirs, administrators, representatives, executors, successors and assigns and shall inure to their benefit and to that of their heirs, administrators, representatives, executors, successors and assigns.

8.5. Amendments. This Agreement may not be altered, amended or modified, except by a further written document signed by the Executive and the Company.

8.6. Governing Law. This Agreement shall be governed by the laws of the Commonwealth of Massachusetts, without regard to or application of choice-of-law rules or principles.

8.7. Limitations on Recovery. In the event that the Executive institutes legal proceedings to enforce this Agreement, he agrees that the sole remedy available shall be enforcement of the terms of this Agreement and/or a claim for damages resulting from the breach of this Agreement, but that under no circumstances shall the Executive be entitled to receive or collect any damages for claims that Executive has released under this Agreement.

IN WITNESS WHEREOF, the undersigned have executed this Agreement as of the date first set forth above.

AXCELIS TECHNOLOGIES, INC.

By: /s/ Lynnette C. Fallon
Lynnette C. Fallon, Executive Vice President,
HR/Legal and General Counsel

/s/ David W. Duff
David W. Duff

Attachments

A – Benefits After Termination Date
B — Employee Invention Assignment and Confidentiality Agreement
C – Resignation from Office
D— Resignation from SEN

Exhibit 31.1

CERTIFICATION

of the Principal Executive Officer

Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Mary G. Puma, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;

4. The Company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the Company's most recent fiscal

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quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2005

/s/ Mary G. Puma
Mary G. Puma, Chairman and Chief Executive Officer

Exhibit 31.2

CERTIFICATION

of the Principal Financial Officer

Pursuant to Rule 13a-14(a)/15d-14(a) (implementing Section 302 of the Sarbanes-Oxley Act)

I, Stephen G. Bassett, certify that:

1. I have reviewed this quarterly report on Form 10-Q of Axcelis Technologies, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Company as of, and for, the periods presented in this report;

4. The Company's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Company and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the Company's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this report any change in the Company's internal control over financial reporting that occurred during the company's most recent fiscal

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quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting; and

5. The Company's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Company's auditors and the audit committee of the Company's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 9, 2005

/s/ Stephen G. Bassett
Stephen G. Bassett, Chief Financial Officer
and Executive Vice President

EXHIBIT 32.1

AXCELIS TECHNOLOGIES, INC.

Certification of the Principal Executive Officer

Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code

The undersigned Chief Executive Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certifies, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-Q quarterly report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned has executed this Certification as of August 9, 2005.

/s/ Mary G. Puma

Mary G. Puma
Chairman and Chief Executive Officer of Axcelis Technologies, Inc.

EXHIBIT 32.2

AXCELIS TECHNOLOGIES, INC.

Certification of the Principal Financial Officer

Pursuant to Section 1350 of Chapter 63 of title 18 of the United States Code

The undersigned Chief Financial Officer of Axcelis Technologies, Inc., a Delaware corporation, hereby certifies, for the purposes of Section 1350 of Chapter 63 of title 18 of the United States Code (as implemented by Section 906 of the Sarbanes-Oxley Act of 2002) as follows:

This Form 10-Q quarterly report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m or 78o(d)) and the information contained herein fairly presents, in all material respects, the financial condition and results of operations of the Company.

IN WITNESS WHEREOF, the undersigned has executed this Certification as of August 9, 2005.

/s/ Stephen G. Bassett

Stephen G. Bassett
Executive Vice President and Chief Financial Officer of Axcelis Technologies, Inc.

AXCELIS TECHNOLOGIES, INC.

Form 10-Q for the quarter ended June 30, 2005
FACTORS AFFECTING FUTURE OPERATING RESULTS

From time to time, we may make forward-looking public statements, such as statements concerning our then expected future revenues or earnings or concerning the prospects for our markets or our product development, projected plans, performance, order procurement as well as other estimates relating to future operations. Forward-looking statements may be in reports filed under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), in registration statements filed under the Securities Act of 1933, as amended (the “Securities Act”), in press releases or informal statements made with the approval of an authorized executive officer. The words or phrases “will likely result,” “are expected to,” “will continue,” “is anticipated,” “estimate,” “project,” or similar expressions are intended to identify “forward-looking statements” within the meaning of Section 21E of the Exchange Act and Section 27A of the Securities Act, as enacted by the Private Securities Litigation Reform Act of 1995.

We wish to caution you not to place undue reliance on these forward-looking statements. These statements speak only as of the date on which they are made and represent management’s expectations based on information available to them at that time. The factors listed below, as well as other factors that we may or may not have not currently identified, could affect our financial or other performance and could cause our actual results for future periods to differ materially from any opinions or statements expressed with respect to future periods or events in any current statement.

We will not undertake and specifically decline any obligation to publicly release revisions to these forward-looking statements to reflect either circumstances after the date of the statements or the occurrence of events that may cause us to re-evaluate our forward-looking statements.

In connection with the “safe harbor” provisions of the Private Securities Litigation Reform Act, we are hereby filing cautionary statements identifying important factors that could cause our actual results to differ materially from those projected in forward-looking statements made by us or on our behalf.

If semiconductor manufacturers do not make sufficient capital expenditures, our sales and profitability will be harmed.

Almost all of our new orders will depend upon demand from semiconductor manufacturers who build or expand fabrication facilities. If the rate of construction or expansion of fabrication facilities declines, demand for our systems will decline, reducing our revenues. This would also hurt our profitability, because of our high fixed cost structure and our continued investments in engineering, research and development and marketing necessary to develop new products and to maintain extensive customer service and support capabilities limit our ability to reduce expenses in proportion to declining sales.

Our quarterly financial results may fluctuate significantly.

We derive most of our revenues from the sale of a relatively small number of expensive products to a small number of customers. The list prices on these products range from $200,000 to over $4.0 million. At our current sales level, each sale, or failure to make a sale, could have a material effect on us in a particular quarter. In a given quarter, a number of factors can adversely affect our revenues and results, including changes in our product mix, increased fixed expenses per unit due to reductions in the number of products manufactured, and higher fixed costs due to increased levels of research and development and expansion of our worldwide sales and marketing organization. Axcelis’ financial results also fluctuate based on gross profit realized on sales. Gross profit as a percentage of revenue may vary based on a variety of factors, including the mix and average selling prices of products sold, costs to manufacture and customize systems and warranty costs. Our gross margins also may be affected by the introduction of new products. Due to the foregoing factors, we believe that period-to-period comparisons of our operating results should not be relied upon as an indicator of our future performance.

Our quarterly financial results may fall short of anticipated levels; forecasting quarterly revenues and profitability is complex and may be inaccurate.

Management typically provides financial forecasts for the subsequent quarter in the earnings release for each quarter. These forecasts are based on assumptions believed to be reasonable when made of shipment timing and contract terms, but in some cases, at the time the forecast is made the final customer terms may not have been agreed and documented, so the level of revenues recognizable in a particular quarter may vary from the forecast. Our lengthy sales cycle, coupled with customers’ competing capital budget considerations, make the timing of customer orders uneven and difficult to predict. In addition, our backlog at the beginning of a quarter typically does not include all orders required to achieve our sales objectives for that quarter and is not a reliable indicator of our future sales. As a result, our revenues and operating results for a quarter depend on our shipping orders as scheduled during that quarter as well as obtaining new orders for products to be shipped in that same quarter. Any delay in, or cancellation of, scheduled shipments or in shipments from new orders could materially and adversely affect our financial results.

The SEC’s Staff Accounting Bulletin 104, addressing revenue recognition, has added additional complexity in forecasting quarterly revenues and profitability. Orders for our products usually contain multiple delivery elements that result in revenue deferral under generally accepted accounting principles. Due to the foregoing factors, investors should understand that our actual financial results for a quarter may vary significantly from our forecasts of financial performance for that quarter. Failure to meet forecast financial performance may have an adverse effect on the price of our common stock.

The semiconductor industry is highly cyclical and we expect that demand for our products will regularly increase and decrease, making it difficult to manage the business and potentially causing harm to our sales and profitability.

The semiconductor business is highly cyclical, experiencing upturns where the demand for our products is high and downturns where our customers are not investing in new or expanded fabrication facilities. Our revenues can vary significantly from one point in the cycle to another, making it difficult to manage the business, both when revenues are increasing and when they are decreasing. In addition, a substantial portion of the our operating expenses are fixed and do not fluctuate with changes in volume. Significant decreases in revenues can therefore have a disproportionate effect on profitability.

Oversupply in the semiconductor industry reduces demand for capital equipment, including our products.

From time to time, inventory buildups in the semiconductor industry, resulting in part from the down cycle, produce an oversupply of semiconductors. This will cause semiconductor manufacturers to revise capital spending plans, resulting in reduced demand for capital equipment such as our products. If an oversupply is not reduced by increasing demand from the various electronics industries that use semiconductors, which we cannot accurately predict, our sales and profitability will be harmed.

If we fail to develop and introduce reliable new or enhanced products and services that meet the needs of semiconductor manufacturers, our results will suffer.

Rapid technological changes in semiconductor manufacturing processes require us to respond quickly to changing customer requirements. Our future success will depend in part upon our ability to develop, manufacture and successfully introduce new systems and product lines with improved capabilities and to continue to enhance existing products, including products that process 300 millimeter wafers using a single wafer platform. This will depend upon a variety of factors, including new product selection, timely and efficient completion of product design and development and of manufacturing and assembly processes, product performance in the field and effective sales and marketing. In particular:

- We must develop the technical specifications of competitive new systems, or enhancements to our existing systems, and manufacture and ship these systems or enhancements in volume in a timely manner.

- We will need to accurately predict the schedule on which our customers will be ready to transition to new products, in order to accurately forecast demand for new products while managing the transition from older products.

- We will need to effectively manage product reliability or quality problems that often exist with new systems, in order to avoid reduced orders, higher manufacturing costs, delays in acceptance and payment and additional service and warranty expenses.

- Our new products must be accepted in the marketplace.

Our failure to meet any of these requirements will have a material adverse effect on our operating results and profitability.

If we fail to compete successfully in the highly competitive semiconductor equipment industry, our sales and profitability will decline.

The market for semiconductor manufacturing equipment is highly competitive and includes companies with substantially greater financial, engineering, manufacturing, marketing and customer service and support resources than we have that may be better positioned to compete successfully in the industry. In addition, there are smaller, emerging semiconductor equipment companies that provide innovative systems with technology that may have performance advantages over our systems. Competitors are expected to continue to improve the design and performance of their existing products and processes and to introduce new products and processes with improved price and performance characteristics. If we are unable to improve or introduce competing products when demanded by the markets, our business will be harmed. In addition, if competitors enter into strategic relationships with leading semiconductor manufacturers covering products similar to those sold or being developed by us, our ability to sell products to those manufacturers may be adversely affected. Finally, if we must lower prices to maintain competitive without commensurate cost of goods savings, our gross margins and profitability will be adversely affected.

We have been dependent on sales to a limited number of large customers; the loss of any of these customers or any reduction in orders from them could materially affect our sales.

Historically, we have sold a significant proportion of our products and services to a limited number of fabricators of semiconductor products. For example, in 2004,our customer, ST Microelectronics accounted for 14.9% of our net sales. Also, in 2004, our top ten customers accounted for 61% of our net sales. None of our customers has entered into a long-term agreement requiring it to purchase our products. Although the composition of the group comprising our largest customers has varied from year to year, the loss of a significant customer or any reduction or delays in orders from any significant customer, including reductions or delays due to customer departures from recent buying patterns, or market, economic or competitive conditions in the semiconductor industry, could adversely affect us. The ongoing consolidation of semiconductor manufacturers may also increase the harmful effect of losing one or more significant customers.

We access the important Japanese market for ion implant through a joint venture that we do not control.

We own 50% of the equity of a Japanese corporation called Sumitomo Eaton Nova Corporation or SEN, to which we have granted an exclusive license to manufacture and sell ion implanters in Japan. Historically, Japan has represented approximately 20% of the annual worldwide market for ion implanters. Sumitomo Heavy Industries, Ltd., a Japanese manufacturer of industrial machinery and ships, owns the remaining 50% of the equity. Neither Axcelis nor Sumitomo has the right to buy out the other's interest in SEN and the SEN joint venture is perpetual (although SEN's license to use our technology could be terminated, as described below). Our joint venture agreement with Sumitomo gives both owners veto rights, so that neither of us alone can effectively control SEN. SEN's business is subject to the same risks as our business. Royalties and income from SEN have been a substantial contribution to our earnings, and a substantial decline in SEN's sales and net income could have a material adverse effect on our net income. As a result of this joint venture structure, we have less control over SEN management than over our own management. In addition, given the equal balance of ownership, it is possible that the SEN Board may be unable to reach consensus from time to time, which could delay important decisions.

The license agreement between SEN and Axcelis continues in its existing form on a year-to-year basis, subject to the right of either party to terminate. Under the SEN bylaws, termination of the license agreement by SEN would be an important matter requiring approval of a majority of the SEN directors. Given Axcelis' 50% representation on the SEN Board, the license agreement will be perpetual until such time as Axcelis deems a termination to be

in its interest. Axcelis does not expect to terminate the SEN license agreement. During 2005, Axcelis intends to continue to pursue agreement with SEN on amendments to the license agreement to add additional licensed products and related royalty terms.

We may occasionally allow SEN to sell implanters outside of Japan. We allow these sales when they are consistent with Axcelis' marketing policies and procedures. When these sales are allowed, we receive commissions in addition to royalties from SEN on these extra-territorial sales and assume most of the post-installation warranty responsibility. However, the financial benefit to Axcelis from the sale of a SEN implanter is less than the financial benefit of a sale of an Axcelis implanter, so such extra-territorial sales may have an adverse effect on the Company's revenues.

Axcelis is subject to the risks of operating internationally and we derive a substantial portion of our revenues from outside the United States, especially from Asia.

We are substantially dependent on sales of our products and services to customers outside the United States. International sales, including export sales from our U.S. manufacturing facilities to non-U.S. customers and sales by our non-U.S. subsidiaries and branches, accounted for 77.0% of total revenue in 2004, 65.3% in 2003, and 53.3% in 2002. In recent years, the percentage of shipments to Asia has been increasing. System shipments to Asian customers represented 74% of total shipment dollars in 2004 in comparison to 60% of total shipment dollars in 2003. We anticipate that international sales will continue to account for a significant portion of our revenue. Because of our dependence upon international sales, our results and prospects may be adversely affected by a number of factors, including:

- unexpected changes in laws or regulations resulting in more burdensome governmental controls, tariffs, restrictions, embargoes or export license requirements;
- difficulties in obtaining required export licenses;
- volatility in currency exchange rates;
- political and economic instability, particularly in Asia;
- difficulties in accounts receivable collections;
- extended payment terms beyond those customarily offered in the United States;
- difficulties in managing distributors or representatives outside the United States;
- difficulties in staffing and managing foreign subsidiary and branch operations; and
- potentially adverse tax consequences.

We may not be able to maintain and expand our business if we are not able to hire, retain and integrate qualified personnel.

Our business depends on our ability to attract and retain qualified, experienced employees. There is substantial competition for experienced engineering, technical, financial, sales and marketing personnel in our industry. In particular, we must attract and retain highly skilled design and process engineers. Competition for such personnel is intense, particularly in the Boston metropolitan area , as well as in other locations around the world. In 2004, we announced the relocation of our Rockville, Maryland operations into our Beverly, Massachusetts headquarters. Although a number of employees will be relocating, we will need to hire to fill open positions in Beverly. If we are unable to retain our existing

key personnel, or attract and retain additional qualified personnel, we may from time to time experience levels of staffing inadequate to develop, manufacture and market our products and perform services for our customers. As a result, our growth could be limited or we could fail to meet our delivery commitments or experience deterioration in service levels or decreased customer satisfaction, all of which could adversely affect our financial results.

Our dependence upon a limited number of suppliers for many components and sub-assemblies could result in increased costs or delays in the manufacture and sale of our products.

We rely to a substantial extent on outside vendors to manufacture many of the components and subassemblies of our products. We obtain many of these components and sub-assemblies from either a sole source or a limited group of suppliers. Because of our reliance on outside vendors generally, and on a limited group of suppliers in particular, we may be unable to obtain an adequate supply of required components on a timely basis, on price and other terms acceptable to us, or at all.

In addition, we often quote prices to our customers and accept customer orders for our products before purchasing components and subassemblies from our suppliers. If our suppliers increase the cost of components or subassemblies, we may not have alternative sources of supply and may not be able to raise the price of our products to cover all or part of the increased cost of components.

The manufacture of some of these components and subassemblies is an extremely complex process and requires long lead times. As a result, we have in the past and may in the future experience delays or shortages. If we are unable to obtain adequate and timely deliveries of our required components or subassemblies, we may have to seek alternative sources of supply or manufacture these components internally. This could delay our ability to manufacture or to ship our systems on a timely basis, causing us to lose sales, incur additional costs, delay new product introductions and suffer harm to our reputation.

Our international operations involve currency risk.

Substantially all of our sales are billed in U.S. dollars, thereby reducing the impact of fluctuations in foreign exchange rates on our results. Operating margins of certain foreign operations can fluctuate with changes in foreign exchange rates to the extent revenues are billed in U.S. dollars and operating expenses are incurred in the local functional currency. During the year ended December 31, 2004, approximately 13% of our revenues were derived from

foreign operations with this inherent risk. In addition, at December 31, 2004, our operations outside of the United States accounted for approximately 29% of our total assets, the majority of which was denominated in currencies other than the U.S. dollar. Our investment in SEN and our royalty and equity income from SEN are subject to foreign currency exchange risks. We use forward contracts to hedge the risk of currency fluctuation with respect to SEN royalties for which payment is received in Japanese yen.

In certain circumstances, we may need additional capital.

Our capital requirements may vary widely from quarter to quarter, depending on, among other things, capital expenditures, fluctuations in our operating results, financing activities, acquisitions and investments and inventory and receivables management. Our outstanding convertible debt in the principal amount of $125 million becomes due in January 2007. We believe that our exiting cash and cash equivalents will be sufficient to satisfy our anticipated cash requirements for at least the next twelve months. This, of course, depends on the accuracy of our assumptions about levels of sales and expenses, and a number of factors, including those described in these “Risk Factors,” could cause us to require

additional capital from external sources. In addition, in the future, we may require or choose to obtain additional debt or equity financing in order to finance acquisitions or other investments in our business. Depending on market conditions, future debt or equity financings may not be possible on attractive terms or at all. In addition, future debt or equity financings could be dilutive to the existing holders of our common stock and convertible notes. Moreover, our existing credit agreement contains restrictive covenants limiting our ability to engage in additional debt financings without the permission of the banks.

Our stock price could be volatile and you could lose the value of your investment.

Our stock price has been volatile and has fluctuated significantly to date. The trading price of our stock is likely to continue to be highly volatile and subject to wide fluctuations. Your investment in our stock could lose value. Some of the factors that could significantly affect the market price of our stock include:

- actual or anticipated variations in results;
- analyst reports or recommendations;
- changes in interest rates; and
- other events and factors, many of which are beyond our control.

The stock market in general and Nasdaq and technology companies in particular have experienced extreme price fluctuations.

We seek to protect our proprietary technology through patents and trade secrets that may be vulnerable to efforts by competitors to challenge or design around, potentially reducing our market share.

We rely on a combination of patents, copyrights, trademark and trade secret laws, non-disclosure agreements and other intellectual property protection methods to protect our proprietary technology. Despite our efforts to protect our intellectual property, our competitors may be able to legitimately ascertain the non-patented proprietary technology embedded in our systems. If this occurs, we may not be able to prevent their use of this technology. Our means of protecting our proprietary rights may not be adequate and our patents may not be sufficiently broad to prevent others from using technology that is similar to or the same as our technology. In addition, patents issued to us have been, or might be challenged, and might be invalidated or circumvented and any rights granted under our patents may not provide adequate protection to us. Our competitors may independently develop similar technology, duplicate features of our products or design around patents that may be issued to us. As a result of these threats to our proprietary technology, we may have to resort to costly litigation to enforce or defend our intellectual property rights. Finally, all patents expire after a period of time (in the U.S., patents expire 20 years from the date of filing of the patent application). Our market share could be negatively impacted by the expiration of a patent which had created a barrier for our competitors.

Axcelis also has agreements with third parties for licensing of patented or proprietary technology, both where Axcelis is the licensor and the licensee. These agreements include royalty-bearing licenses and technology cross-licenses. Termination of license agreements could have an adverse impact on our financial performance or ability to ship products with existing configurations.

We or customers that we indemnify might face intellectual property infringement claims or patent disputes that may be costly to resolve and, if resolved against us, could be very costly to us and prevent us from making and selling our systems.

From time to time, claims and proceedings have been or may be asserted against us relative to patent validity or infringement matters. Our system sales documentation typically includes an indemnification by Axcelis of our customers from liability to third parties for intellectual property infringement arising from the use of our products in their intended manner. Therefore, Axcelis on occasion receives notification from customers who believe that Axcelis owes them indemnification or other obligations related to infringement claims made against the customers by third parties. Our involvement in any patent dispute or other intellectual property dispute or action to protect trade secrets, even if the claims are without merit, could be very expensive to defend and could divert the attention of our management. Adverse determinations in any litigation could subject us to significant liabilities to third parties, require us to seek costly licenses from third parties and prevent us from manufacturing and selling our systems. In addition, infringement indemnification clauses in system sale agreements may require us to take other actions or require us to provide certain remedies to customers who are exposed to indemnified liabilities. Any of these situations could have a material adverse effect on our business results.

If operations were disrupted at Axcelis’ primary manufacturing facility it would have a negative impact on our business.

We have one primary manufacturing facility, located in Massachusetts, and its operations could be subject to disruption for a variety of reasons, including, but not limited to natural disasters, work stoppages, operational facility constraints and terrorism. Such disruption could cause delays in shipments

of products to our customers and could result in cancellation of orders or loss of customers and could seriously harm our business.

Exhibit 99.2

Axcelis Technologies Inc.

Governance Policies

Adopted by the Nominating and Governance Committee of the Board of Directors on September 25, 2002 as amended October 22, 2003 and June 22, 2005

Board Composition and Criteria for Evaluation of Directors and Nominees

1. The Board shall be comprised of a majority of Independent Directors.

2. For the purposes of this policy, "Independent Director" shall have the meaning set forth in the listing standards for the Nasdaq National Market (the "Nasdaq Rules"), and such definition in this policy shall change as and when the definition in such Rules change, provided that the Nominating and Governance Committee shall promptly circulate any changes to such definition to all members of the Board of Directors.

3. Any determination of whether an incumbent Board member is an "Independent Director" under the then effective Nasdaq Rules shall be made by a majority of the directors then in office who have either been affirmatively determined to be "Independent" or for whom there is no pending question of independence.

4. Former CEOs of the Company will not remain on the Board.

5. All new candidates for election to the Board and all Board members eligible for nomination for re-election to the Board shall be evaluated prior to nomination for election or re-election based on criteria developed by the Nominating and Governance Committee, including but not limited to the following:

(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 shareholder; and

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

6. It would not be normally expected that a member of the Board of Directors would be asked to sit for re-election to the Board after such member's 75th birthday.

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7. When a Director's principal occupation or business association changes substantially from the position he or she held when originally invited to join the Board, the Director shall tender a letter of resignation to the Chairman. The Nominating and Governance Committee will review whether the new occupation, or retirement, of the Director is consistent with the specific rationale for originally selecting that individual and the guidelines for board membership. The Nominating and Governance Committee will recommend action to be taken regarding the resignation based on the circumstances of retirement, if that is the case, or in the case of a new position, the responsibility and type of position and company and industry involved

8. New directors will receive a director orientation program to familiarize them with the Company's business, industry trends, and recommended governance practices.

Chairman of the Board

9. The duties of the Chairman of the Board include setting Board agendas and such other responsibilities as may be assigned to him or her by the Board of Directors in accordance with the Company's bylaws.

10. The Company's Bylaws permit the Board to select its Chairman in the manner it determines to be most appropriate for the Company. If the Chairman of the Board is not the Chief Executive Officer, and is an independent director, there shall be no Lead Director. If the Chairman of the Board is the Chief Executive Officer or is not an independent director, the independent directors shall elect a Lead Director. The responsibilities of the Lead Director shall include:

- Setting the board's agenda in collaboration with the CEO;
- Acting as a regular communication channel between the board and CEO;
- Organizing and presiding over executive sessions to review the company's performance and management effectiveness;
- Conducting exit interviews with resigning senior managers to determine whether their departure reflect problems with the CEO or other company issues;
- Coordinating the activities of the independent directors;
- With the Chairman of the Nominating and Governance Committee, addressing an actions arising from the annual Board self-evaluation, coordinating the assessment of the committee structure, organization, and charters, and evaluating the need for any changes; and

- Coordinating the performance evaluation of the Chairman and CEO.

Conduct of the Board of Directors and Committees

11. The Board shall form an Audit, Compensation and Nominating and Governance Committees.

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12. The composition of the Audit Committee shall satisfy the requirements of the Nasdaq Rules, the Sarbanes-Oxley Act of 2002 and the rules and regulations of the Securities and Exchange Commission.

13. The composition of the Compensation Committee shall satisfy the requirements of the Nasdaq Rules, the Securities and Exchange Commission Rule 16b-3 and the Internal Revenue Service requirements to exempt option compensation from the limitations on deductibility under I.R.C. Section 162(m).

14. The composition of the Nominating and Governance Committee shall meet the requirements of the Nasdaq Rules.

15. Independent Directors shall meet in executive session at every meeting of the full Board and in Committees.

16. Minutes of all Board committees shall be submitted to the full Board for their information.

17. At each Board meeting, Committee chairmen shall report to the full Board on Committee activities since the last Board meeting.

18. The Board and Committees shall be free to hire independent advisors as they in their sole discretion determine appropriate.

19. The Board should undertake an annual review of the Company's strategic direction.

Shareholder Rights

20. The Company shall not limit the rights of shareholders in contravention of Delaware law or the listing requirements of Nasdaq National Market.

21. Board Committee charters and these Governance Policies shall be filed annually with the Company's Form 10-K or proxy statement for the information of our shareholders.

22. Shareholder approval will be solicited on all equity compensation plans to the extent required by the Nasdaq Rules.